

**The Medical Officer of Health
& Social Services**

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City & County of Bristol



REPORT FOR

1970

**THE HEALTH AND
SOCIAL SERVICES OF BRISTOL
IN 1970**



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THE HEALTH OF BRISTOL IN 1970

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THE HEALTH AND SOCIAL SERVICES OF BRISTOL 1970

My Lord Mayor, Ladies and Gentlemen,

I have the honour to present my fifteenth Annual Report on the health of the City and County of Bristol, which is compiled in accordance with Department of Health and Social Security Circular 1/71.

Vital Statistics

The Registrar-General estimated that the population in 1970 was 426,370 compared with 427,230 in 1969. The number of live births has fallen steadily from 7,600 in 1965 (adjusted birth rate 18.1) to 6,256 in 1970 (15.1). The number of illegitimate births was 741 in 1965 (9.7% of all births) compared with a total of 653 in 1970 (10.4% of all births).

It is now known that in 1969 671 legally induced abortions were carried out on Bristol women of whom 346 were single and 264 were married, and of the total 26 were aged under 16 years and 136 were aged 16-19 years. Of the abortions carried out in the home region 522 were performed in N.H.S. hospitals and 112 in non-N.H.S. hospitals, and of those carried out in other regions 5 were in N.H.S. hospitals and 32 in non-N.H.S. hospitals.

The infant mortality rate of 19.8 was the highest since 1965, the rate for illegitimate children 23.0 being higher than that for legitimate births, 19.5. The stillbirth rate of 13.2 per 1,000 and the peri-natal mortality rate of 24.8 were not as low as in 1969 (12.2 and 20.5 respectively).

A comparison of certain vital statistics of twelve of the largest county boroughs in England and Wales showed that Bristol had the lowest notification and death rate for tuberculosis; the second lowest death rate for all forms of cancer and the third lowest for cancer of the lungs and bronchus; the third lowest adjusted birth rate; the lowest percentage of illegitimate live births and the lowest adjusted death rate. The infant mortality rate was the second lowest but the city's ranking for maternal mortality still births, peri-natal mortality and neo-natal mortality were not so favourable.

There was one maternal death in the year, a 21-year-old diabetic woman expecting her first baby, who died from acute pyelonephritis.

The adjusted death rate of 12.2 per 1,000 was slightly higher than in 1969 (12.1). In all there were 2,000 deaths from cardiovascular disease including 1,436 deaths from coronary heart disease. Malignant disease accounted for 1,016 deaths. Mortality from cancer of the stomach has declined and the rise in deaths from leukaemia, which occurred in the 1950's and 1960's, appears to have been arrested.

The main opportunities for the prevention and early detection of cancer are related to the lung and bronchus, breast and cervix of the uterus, which were the principal cause of death of 354 Bristolians (223 men and 131 women) in 1970.

Improved methods of health education may achieve a reduction in the smoking of cigarettes and, with the marginal benefit of smoke control programmes, result in fewer cases of lung cancer.

Knowledge of the technique of self-examination of the breasts could help early diagnosis of cancer and the encouragement of the attendance at clinic sessions of older women of high parity and from the lower socio-economic groups could lead to the detection of pre-cancerous conditions of the cervix with subsequent improvement in the prognosis after treatment.

Infectious diseases and their prevention

For the twenty-first consecutive year there was no case of diphtheria in Bristol, and for the ninth year none of poliomyelitis. Notifications of whooping cough were higher (39) than in 1969 (21) but still considerably lower than in 1968. Of children born in 1969, 87% were protected against diphtheria, whooping cough and tetanus by the end of 1970, and 81% against poliomyelitis.

There were 1,384 notified cases of measles compared with 1,462 in 1969. Only 5 of the cases reported in 1970 occurred in children who were known to have been vaccinated. Adequate supplies of an effective vaccine were available and parents of unprotected children born from 1967 to 1969 were invited by appointment, in a computer administered campaign, to clinic sessions held between 12th and 23rd October, to have their children vaccinated. During this period 2,662 children were injected and it was also noted that in the following weeks the numbers attending routine sessions increased both at family doctor surgeries and in Corporation clinics and health centres. Altogether during the year there were 9,035 vaccinations, the highest total yet achieved in one year.

There were 433 notifications of rubella compared with 912 in 1969 and 3,325 in 1968. In July 1970, the Department of Health and Social Security recommended local authorities that vaccination against German measles should be offered to all girls between their 11th and 14th birthdays and, in mid November, a team from the department visited secondary schools to give the injections and it was encouraging to find a 79% acceptance rate. Members of the medical and nursing staff were able to speak with conviction about the acceptability and effectiveness of the vaccine because a preliminary controlled trial before national policy was determined had shown that clinical reactions to the vaccine were negligible and sero conversion in sero-negative subjects was usual.*

A brisk epidemic of influenza which started in December 1969 continued into February 1970 and, although the main epidemic persisted for only two or three weeks, there were 103 deaths directly attributable to influenza during this period, 86% in persons aged 60 or more.

The number of cases of tuberculosis reported each year has been diminishing steadily but there are indications that the rate of decline of incidence of new notifications is decreasing. In 1970 there were 77 cases notified, 63 of pulmonary tuberculosis and 14 of the non-pulmonary form. There were 8 cases of pulmonary tuberculosis in persons under 20 years of age, representing 12·7% of all notifications.

B.C.G. vaccination continues to be well accepted (80%) in 1970 and since the percentage of Heaf negative 13 year old children is increasing steadily (85·3%), protection continues to be necessary. The natural conversion rate was only 5·8%.

Most cases of food poisoning were due to *Salmonella* infection and although 22 different serotypes were involved, typhimurium (28) and enteritidis (21) were most commonly involved.

There were 2 cases of typhoid fever, one diagnosed after a holiday in Spain and the other contracted from a carrier from overseas. There were also 2 cases of paratyphoid fever and 3 cases of malaria.

Members of the public have become increasingly aware of the need for protective inoculations before going overseas, particularly on holiday or business, and special arrangements were made for large school parties to have injections on the

* Rowland, A. J., George, A. M., Evans, M. R. E., and Reeve, M. (1971), *Medical Officer*, 125, 317.

school premises, in addition to routine and special sessions at the Foreign Travel Clinic in the Central Health Clinic. During 1970 a total of 2,676 people attended the clinic and among the protective inoculations given were 1,295 against Yellow Fever, 651 against Smallpox and 410 against Typhoid and Paratyphoid Fevers and Tetanus. Because of the outbreak of Cholera in some of the countries bordering on the Mediterranean, the number of people receiving at least one injection of vaccine (935) was unusually high.

There were 696 notifications of infective jaundice, a rise of 479 on the previous year, and 1970 was the year of highest incidence since local notification began in 1961. Most notifications were received in the first half of the year and the greatest concentration of cases occurred in the Hartcliffe and Bishopsworth areas of the city.*

Veneral Disease

The number of male cases of gonorrhoea increased from 698 in 1969 to 820 in 1970, and the number of female cases from 549 to 603. The male :female ratio was 1.3 :1 in 1970 as compared with 5 :1 in 1955. There is a disturbing continuing rise in the percentage of patients under 20 years of age and in 1970 they made up 14% of male patients and 39.5% of females. Gonococcal Ophthalmia Neonatorum has reappeared as a small but potentially serious problem.

Maternal and Child Health

In 1970 93% of Bristol babies were born in hospital, the highest percentage yet reached. The numbers of babies discharged to the care of the general practitioner and the domiciliary midwife in the first three days after delivery increased from 990 in 1969 to 1,145 in 1970, and the number of discharges on the fourth and fifth day increased from 759 to 773. In addition, 82 mothers confined in the general practitioner short stay unit at the Bristol Maternity Hospital returned home within a few hours of confinement.

Progress has been made in encouraging expectant mothers to seek care earlier in pregnancy and 32.3% attended in the first twelve weeks and another 31.9% between the twelfth and sixteenth weeks. Only 10.6% attended for the first time later than the twenty-fourth week. More than half of the women having their first baby attended parentcraft classes at the main clinics and centres.

There is no comprehensive Family Planning Service in Bristol. The Department of Health provides free advice, prescriptions and contraceptives to women, including the unmarried, where there are medical (and in certain cases medical-social) reasons in eight main clinics. The Bristol Branch of The Family Planning Association holds sessions in nine clinics and health centres of the Department of Health, but makes charges for both the consultation and contraceptives supplied. In addition advice is given by general practitioners, free if there is a medical indication, and with prescriptions and contraceptives at current N.H.S. charges, but with a fee for advice, full cost for prescriptions and a fee for appliance fittings in non-medical cases. The Brook Clinic provides a counselling and advisory service for the unmarried at a charge. There is need for a full free service which would be linked with the existing facilities provided jointly by the Department of Health and the hospital service for the investigation of problems relating to infertility.

For the past four years the conditions considered to warrant inclusion on the register of young children at increased risk of a congenital abnormality have been

* Skone, J. F. (1971) *Postgraduate Medical Journal*, 47, 462-464.

severe perinatal anoxia; perinatal cerebral irritation; maternal contact with rubella; severe rhesus incompatibility with raised serum bilirubin levels, and premature or dysmature babies of less than 4-lbs. birth weight. During 1970 108 children in these categories were placed on the register and by the end of February 1971, 19 were already noted as having abnormalities.

Consideration was given to a letter sent in February 1970 by the Department of Health and Social Security to Medical Officers of Health and Children's Officers on the subject of battered babies. About 4 or 5 cases of possible neglect or ill-treatment, including the battered baby, are investigated every week but fortunately the problems are usually of a minor nature. However, during the year there were 27 more serious enquiries where joint action was taken with the Children's Department and in 13 cases the police were involved. Close co-operation exists between Corporation Departments and family and hospital doctors.

The Local Authority Dental Service treated 910 pre-school children in 1970 (compared with 937 in 1969) and 392 expectant and nursing mothers (444 in 1969). Since these numbers are only a fraction of potential patients, it is difficult to give an opinion of dental health in these groups.

Health Education

It is now 21 years since a Health Education Officer was appointed in Bristol. In this report, the Health Education Officer reviews some of the changes in the health of Bristol citizens in the last two decades.

The publicity campaign in relation to V.D. continued for its second year and future publicity proposals are mentioned. For the first time a Foreign Travel Vaccination campaign was organised and this is likely to be repeated each year.

The Health Education Section has now produced several posters and leaflets which have been offered for sale to other authorities and it would appear that in this field there are likely to be further developments. "Health in Bristol", a new bi-monthly news sheet, was successfully launched during the year, replacing the former "Monthly Bulletin of the Medical Officer of Health" which had a life span of 13 years.

Home Safety Council

Forty-two Bristol citizens died as the result of an accident in their homes. A disturbing feature was the deaths of ten people from carbon monoxide poisoning.

The two main features of the year were a "show house" — a "Home Safe Home" during the St. Paul's Festival and a successful demonstration/exhibition, entitled "Learn to Save A Life", at the Bristol Flower Show. In a competition, arranged on the Stand, 665 people tried their skill at identifying drugs and sweets.

Nursing Services

It was shown that the attachment of home nurses to 18 general practices, caring for about 137,000 patients or about one-third of the city's population, was associated with an increase by about one-third of the number of patients referred by general practitioners for home nursing. Among the benefits reported were treatment carried out by nurses in general practitioners' surgeries; home visits to patients not previously receiving domiciliary nursing care; improved communications between practitioners and nurses, and opportunities for doctors and nurses to widen their fields of work. Although the travelling expenses paid to the nurses increased by 9.5%, it was suggested that the benefits of attachment to patients, doctors and nurses far outweighed

the costs.* By the end of the year 28 practices were involved in home nurse attachment schemes and, in all, 95 general practitioners were involved. Altogether the equivalent of 45 nursing staff (30 State-registered nurses and 15 State-enrolled nurses) were working in the attachment scheme.

A start was made on the attachment of health visitors and at the end of the year, 4 health visitors were associated with three practices with a total of 8 general practitioners.

There was good recruitment of ancillary help to the health visiting and district nursing services and the establishment of health assistants to help health visitors has been increased, in the first instance working for the larger groups of health visitors at health centres and clinics. Personnel in the Control Room of the Central Ambulance Station took over responsibility for dealing with emergency telephone calls for the nursing service outside ordinary working hours.

District nurse training for State-registered and State-enrolled nurses was carried out almost continuously throughout the year and in-service training for nursing assistants was arranged. In June the Department of Health and Social Security extended their arrangements for district training to include State-enrolled nurses in eligibility for the award of a National Certificate and the first course in Bristol for the certificate started in October.

The report of the working party under the chairmanship of Mr. E. L. Mayston on the Management Structure of the Local Authority Nursing Services was published in January and proposals for local implementation put forward.

Home Help Service

There was a further increase in the number of requests for help for the aged and chronically sick but work with maternity cases has fallen. The greatest number of requests for help came through hospital social workers (787), general practitioners (358), patient or relative (357), health visitors (184) and district nurses (178). Because of industrial action about 200,000 hours less work were worked during the year. Although the organisers ferried as many home helps as possible to urgent cases during the bus strike, some home helps walked as much as five miles to and from their cases. Home helps assisted many old people living under difficulties in multi-storey accommodation during the electricity dispute.

At the end of 1970 there were 689 part-time and 9 full-time home helps. Recruitment remained good and in-service training was held from January to May and October to December. Of 279 home helps attending these courses, 154 were new entrants and only 3 withdrew at the end of the week's course.

Mental Health Service

In May 1970 the Committee approved an establishment of 6 additional Mental Welfare Officers and it became possible to plan for 1 Senior Mental Welfare Officer, 2 Mental Welfare Officers and 1 Trainee or Welfare Assistant to serve each area. By the end of the year only one of the six new posts had been filled so the remainder were re-advertised. Social work case loads have continued to increase and, at the end of the year, 815 subnormal persons and 266 people suffering from mental illness were receiving home visits.

There were 868 new referrals concerning patients with mental illness (137 more than in 1969), and 73 new mentally handicapped cases.

* Rowland, A. J., Dixon, P. N. and Holliger, B. (1970), *Brit. Med. J.*, 4, 545.

As in previous years, it was necessary to review and reduce case loads constantly and to be very selective in the acceptance of new referrals in order that adequate attention could be given to active cases.

Spot maps showing the distribution of known cases of mental subnormality were included in the Annual Reports for 1953 and 1960 and, in a revision in December 1970, it was shown that as a result of housing clearance and redevelopment there were fewer cases in the central areas of St. Paul's, St. Philip's, Barton Hill and Hotwells, and more in the Highridge, Bishopsworth, Withywood and Hartcliffe areas and in the Henbury/Brentry area.

Throughout 1970 the 50 places in the Snowdon Road Workshops were filled and the main contract involved the making up of dressing packs and cytology sets for the South Western Regional Hospital Board Supplies Department. About 40,000 packs per month were produced, the variety of packs having increased from 16 to 30 during the year. The link with the special schools for the educationally subnormal was maintained and pupils received for industrial training periods throughout the year. In November the workshop was moved temporarily to accommodation at 100 Fishponds Road to facilitate extension of the premises but full production was maintained.

The pressure for places in the Junior Training Centre continued but it has been possible to accommodate all children referred for full-time attendance on their fifth birthday. The numbers attending the Special Care Unit have increased from 6 in December 1963 to 35 in December 1970, and from 118 to 142 among those attending the Junior Training Centre.

The Education (Handicapped Children) Act received the Royal Assent on 23rd July and provided for the transfer of responsibility for mentally handicapped children from health to education authorities on 1st April, 1971. The two year course for student teachers was extended to three years, giving teachers of mentally handicapped children parity of preparation with students preparing for their Certificate of Education.

The number attending the Adult Training Centre increased from 185 in December 1969 to 201 at the end of 1970.

Under the direction of a new supervisor, a great deal of effort by the staff at the Stratton Street Day Centre for severely mentally subnormal and physically handicapped children went into creating a "nursing" environment with emphasis on play, and a small parent/teacher group was formed.

The number of children admitted to the residential unit for short-term care increased from 118 in 1969 to 138 in 1970. Marlborough House Hostel for employable subnormal men was fully occupied for most of the year. Twenty people were admitted to Devon House Hostel during the year (17 from psychiatric hospitals) and 21 were discharged (14 to lodgings, home of relatives and hostel accommodation, and 7 were admitted to psychiatric hospitals). Petherton hostel for the elderly mentally infirm was fully occupied during the year but it has been difficult to maintain places for short-term care.

Ambulance Service

Although there were some restrictions in the Ambulance Service because of industrial action, demands generally continued to rise and the total of 9,121 emergency patients was the highest yet recorded.

Early in the year, a pilot scheme was organised to test the efficiency of "Entonox" for the relief of pain in accidents and medical emergencies. Records were kept of the

degree of relief of pain and general comments of patients, and the follow-up in Frenchay Hospital was carried out by Dr. P. J. Baskett, Consultant Anaesthetist. In all "Entonox" was given to 305 patients, of whom 49% had been involved in accidents, 19% had acute abdominal conditions, 15% were obstetric patients, 8% had myocardial infarctions, 3% urinary retention and 6% miscellaneous conditions. 64% of the patients reported marked relief of pain, 33% partial relief, and only 3% derived no benefit.

All eligible staff with under five years service have now completed a two week refresher course at the Hampshire Ambulance Training School and new entrants have attended the six weeks course to qualify as ambulance men. A two weeks induction course has been organised locally.

In-service training has included secondment to the Bristol Royal Infirmary; talks on the use of "Entonox" and the recognition of hypothermia, and a visit to the Motorway Control Centre at Almondsbury.

Progress was made in the introduction of a productivity agreement which may have far reaching national effects.

Services for the Elderly and Handicapped

Mr. R. C. Travill, Principal Welfare Services Officer, contributes the last of his three interesting annual reports on developments.

The new home "Greystoke" came into operation in October and was officially opened by the Right Hon. The Lord Mayor of Bristol, Alderman G. P. Palmer, on 11th January, 1971. Building of the new homes "Coombe" in Westbury-on-Trym and "Wainbrook" in Barton Hill was in progress.

The original buildings at 100 Fishponds Road were erected as long ago as 1847 and the accommodation played an important part in the social history of the city. In recent years chronically sick residents have been admitted to hospital and others to newly completed purpose built old people's homes. The last three residents were transferred to Manor Park Hospital on 2nd November.

At the end of the year, the Social Services Committee administered accommodation for 922 people, mostly elderly, and were financially responsible for a further 107 aged and disabled persons in homes provided by voluntary bodies or other local authorities. Because of restrictions on capital spending the Committee was unable to implement fully its plans for the provision of 1,391 places in homes for elderly and handicapped people by 31st March, 1971.

At the end of the year, there were more than 750 elderly persons' dwellings provided by the Housing Committee and over 400 provided by voluntary organisations but there is still a great need for more sheltered accommodation.

The "Meals on Wheels" Service expanded and most meals were of the 'Top Tray' frozen food variety supplied from the Committee's own kitchen at Bedminster and the Avonmouth kitchen of the Public Works Committee. During 1970 337,500 meals were distributed and at the end of the year 1,692 people were receiving meals.

The Pastime Centre at Lockleaze continues to serve a most valuable function for the social welfare of the physically handicapped and about 150 people attended daily for varying numbers of days per week enabling about 450 to benefit.

The Committee helps people living in their own homes by the provision of adaptations and one interesting development has been the involvement of the Corporation Social Services Committee and its officers, with officers of the South Western Regional Hospital Board, hospital consultants and general practitioners, in the provision of 'POSSUM' apparatus which enabled three severely handicapped people to

live a relatively independent life. During the year conversions for renal dialysis were made by the Corporation in a council dwelling and a private house in the city. The patients were then able to leave the Southmead Hospital Dialysis Unit and carry out their own treatment. The Chronically Sick and Disabled Persons Act which received the Royal Assent on 29th May is likely to place new responsibilities on the Local Authority.

The Motor Vehicles (Driving Licences) Regulations 1970 came into effect on 1st June, and Regulation 22(2) which deals with the licensing of drivers suffering from epilepsy, increased the responsibility of the Department of Health for obtaining opinions on fitness to drive. During the year 55 people with a history of epilepsy, giddiness and fainting applied for licences and 20 were declared fit to drive. Twenty-five people still on treatment but free of fits for three years and not likely to be a source of danger to the public were granted licences for one year, in the first instance, as cases of controlled epilepsy. Only 10 applications were refused or licences revoked.

Environmental Health Services

Although 1970 was European Conservation Year, progress in Environmental Services had mixed fortunes. There was anxiety about atmospheric pollution connected with industrial developments at Severnside and about the proposed discharge into the Severn estuary of effluent from the British Steel Corporation.

Shortage of solid, smokeless fuels led to the suspension in October of three Smoke Control Orders, releasing from control more than 22,000 dwellings in the South West and North West areas of the city. However works of adaptation to fireplaces continued in both the No. 8 (Westbury, Brentry and Sea Mills) and No. 10 (Hotwells and part of Clifton Wood) Smoke Control Areas.

The national strike of municipal manual workers which occurred during October and November was particularly felt in Bristol where the withdrawal of labour affected all Departments, including our own pest control, disinfection and disinfestation services and Abattoir staff. No practical measures could be taken against possible public health hazards arising from unauthorised tipping of refuse at about 200 sites. However, it was possible to offer public health advice at a very early stage through the good offices of the City Public Relations Officer, and District Public Health Inspectors reported daily upon conditions which were often commented upon in the press and on radio and television.

Work continued in constructing a sewer system to intercept sewage before discharge to the River Avon and the Ashton Pumping Station was completed. From 14th September, sewage from the Bedminster, Ashton, Bishopsworth, Hartcliffe, Knowle West and Long Ashton areas was pumped to the treatment works at Avonmouth. The population served by the Pumping Station is 90,000 at the present time and brings the total population served by the sewage treatment works to 372,000 or some 65% of the total population in the regional drainage area. Disposal of digested sludge at sea started in April and proceeded very satisfactorily.

During the year 185 unfit houses were demolished voluntarily by their owners. Routine inspection of basements continued and, as a result, the number of applications for improvement grants has increased. There were 9,500 land charge and other enquiries relating to future housing action.

A working party of senior officers from the Planning, Housing and Health Departments have been studying the physical problems of the St. Paul's area and dealt

with topics such as land use, age of buildings, external conditions of properties, community facilities, details of Corporation ownership, improvement grants given and land that may be required for road proposals.

Properties have been graded as to "life" for the purpose of short or long term improvements, bearing in mind major road proposals and industrial expansion. A new school associated with a play area and other open spaces to provide essential educational and recreational facilities and two new shopping precincts are planned for the area. The final plan represented the considered thinking of the Council that was made public at a well attended meeting of owners and residents at which matters of general principle and policy were answered.

With the help of general practitioners and hospital medical staff, a medical officer assesses the relative priorities of applicants for Corporation houses in relation to any medical conditions that are present. The annual number of cases considered has increased from 1,154 in 1965 to 2,621 in 1970, of whom 1,319 wanted a transfer from existing accommodation and the remainder were new applicants. In 102 cases medical circumstances made re-housing a matter of urgency and they were given priority.

During the year 131 complaints were received with regard to noise, necessitating 2,403 visits being made by public health inspectors. In only five instances was it found necessary to serve an Abatement Notice and on only two occasions to take action in the Courts. Special problems included nuisance from the new factory premises of a firm of timber packing case manufacturers; excessive noise levels in tractor cabs causing a noise induced hearing loss, and noise arising from demolition and building sites in the central area of the city.

Complaints about mice have increased from 739 in 1967 to 2,230 in 1970, mainly because of the ineffectiveness of standard Warfarin rodenticides. A total of 631 wasp nests were treated and destroyed during the year. The section took over responsibility for the control of feral pigeons in June and details are given of the way in which this difficult work is carried out.

The Urban Programme

In June 1969 the Home Office invited applications for projects that might be helped in the second phase of the urban programme and Bristol Education Committee received assistance for the creation of the Baptist Mills Centre for Community Activities (which was opened informally by the Lord Mayor on 12th February, 1971); additional nursery classes at Baptist Mills Infants School and in Knowle West; the expansion of summer holiday play-groups including the payment of play leaders and the acquisition of equipment and materials, and the provision of summer school facilities at suburban schools for central area children of primary school age.

Further applications were invited in June 1970 for the third phase of the programme and there were approved a nursery school at Hartcliffe, a club for the elderly in St. Paul's, and the layout as a play area of St. Andrew's Churchyard. In April 1971 the Department of Education and Science indicated that a day nursery associated with the nursery school could be included as a "Key sector" project in the 1971-72 programme.

Scientific Service

The number of examinations increased from 9,914 in 1969 to 10,612 in 1970. With the acquisition of Atomic Absorption apparatus, it was possible to carry out a greater range of examinations. The Scientific Adviser took part in a collaborative investi-

gation with other laboratories in the South West into the presence of mercury and other metals in canned and fresh fish products.

Occupational Health

From June the Occupational Health Service took over medical responsibility for the Fire Brigade, and a total of 3,735 pre-employment and periodic examinations were carried out. In addition there were 483 special examinations of employees who were usually seen at the request of a Department but sometimes at the employee's own request because of work-related health problems. Among the employees examined regularly are the staff of school crossing patrols who are examined at five yearly intervals under the age of 65 and yearly afterwards, and school meals staff who are examined at intervals of one and two years.

First aid training has been steadily developed and in addition to isolated lecture/demonstrations on artificial respiration and, in some instances, external cardiac massage, there have been full first aid courses followed by a St. John or Red Cross first aid examination. A more concentrated full first aid course, lasting four days full time; was run with the help and co-operation of the Housing Department Safety and Welfare Officer. This was very popular and will be repeated. A register of all first aiders employed in the Corporation has been prepared and will be useful in planning future refresher courses.

At the request of the Occupational Health Committee a working party from the Corporation's Safety Officers Liaison Meeting has reviewed current safety procedures with a view to suggesting improvements where applicable.

Sickness absence in the Health and Social Services Department was analysed for the financial year April 1969 to March 1970. Among full time staff there was a turnover of 29·7% and among home helps 34·4%. Sickness absence rates were highest among people aged 25 to 30 and 55 to 60 years, and were higher amongst women than men and among single women than married. Of all sickness absence, respiratory infections were responsible for 30·8%; conditions of joints and organs of movement 8·5%; accidents 7·6%; digestive disturbances 7%, and cardio-vascular conditions 6%. Among causes of sickness absence that might be prevented are accidents and some back injuries associated with incorrect lifting practices. Safety instruction should form a part of first aid courses. Reduction of cigarette smoking might reduce sickness absence due to upper respiratory infections and vaccination might reduce morbidity during an influenza epidemic.

The Future of Health and Social Services

In the second Green Paper on the future structure of the National Health Service published in February 1970, the Government announced its decision that the personal health service would not be administered by Local Government but by Area Health Authorities co-terminous with new Local Authorities that would be providing environmental health and social services. On 5th November, the Secretary of State for Social Services in the new Government re-affirmed that it was intended to unify the administration of the National Health Service and an outline of its proposals is contained in the Consultative Document on National Health Service Re-organisation published in May 1971.

The White Paper on proposals for re-organisation of Local Government in England indicated that although most environmental health matters will remain the

responsibility of district councils, clean air and food and drugs will be transferred to new county councils. Bristol is the largest authority in the proposed County Area 26 which had a population of 933,000 in 1970, and a rateable value of £42,961,000. It is suggested that the new Local Authorities will take over their full functions on 1st April, 1974, the same date that a unified National Health Service will come into operation.

Most of the recommendations of the Seeborn Committee on Local Authority and Allied Personal Social Services which was published in July 1968 were implemented when the Local Authority Social Services Act 1970 received the Royal Assent on 29th May. In Bristol a working party of members of the Social Services and Children's Committees was set up and, with representatives of the Selection Committee, appointed a Director of Social Services, Mr. David Kiddle, M.A., who took up his duties in December. The new Social Services Committee, under the chairmanship of Councillor Mrs. Gwen Barrow, took over responsibility on 1st January, 1971, for services usually described as "children's" and "welfare" and the following services provided by the authority as a Local Health Authority :

family case work and social work with the sick and mentally disordered; day centres, clubs, adult training centres, workshops and residential accommodation for the above;

the day care of children under five, day nurseries and child minding; the care of unsupported mothers including residential care, and home helps.

Many important duties remain the responsibility of the Local Health Authority and I am pleased to report the re-creation of a Public Health Committee under the chairmanship of Alderman Cyril Hebblethwaite, C.B.E. Among the growing responsibilities are the provision of health centres; family planning; health education; developmental paediatrics; screening procedures; the health of the handicapped and elderly including the provision of chiropody services and geriatric clinics, and continued efforts to persuade people of the value of fluoridation of water supplies. Much work must be done quickly to ensure that existing standards of social services are fully maintained during re-organisation and to facilitate the unification of the health service.

Fortunately, good relations already exist with the Director of Social Services and I am pleased to report that it has been decided on matters relating to the employment and deployment of medical staff the Director will seek advice from the Medical Officer of Health. Similar good relationships already exist with the Secretary of the Board of Governors of the United Bristol Hospitals and with the Secretaries of the Group Hospital Management Committees in the area.

Increasing attention is being paid to the importance of a knowledge of management techniques. The Deputy Medical Officer of Health attended a three week Management Course for Senior Local Government Officers at Portsmouth Polytechnic, and arrangements were made for the Chief Administrative Officer to attend a ten weeks course organised by the Institute of Local Government Studies in the University of Birmingham.

Screening Procedures

Among 16,072 patients in the Bristol area examined in 1970 by the Chest Radiography Service of the South Western Regional Hospital Board, 62 were found to have bronchial carcinoma — an incidence of 3.9 per 1,000. General practitioner referrals were the most productive eliciting 58 cases — an incidence of 6.6 per 1,000, while only 2 cases were detected at sessions for the general public — an incidence of 0.6

per 1,000. The comparable yield of cases of pulmonary tuberculosis requiring treatment was 15 (1·7 per 1,000) among patients referred by general practitioners, and 2 (0·6 per 1,000) at sessions for the general public.

Of 1,044 Bristol Corporation employees examined by mammography, 86 (8·2%) were found to have a radiological abnormality—41 due to inactive lesions or ones not requiring further investigation and 45 (4·3%) to have a radiological abnormality requiring further examination. One single woman on clinical examination had no symptoms but only a slight thickening of the breast and on operation was found to have an early scirrhous carcinoma.

In 1970, 5,601 cervical smears were taken from women attending Bristol Corporation health centres and clinics, 3,254 by general practitioners, 1,810 by departmental medical officers and 537 by consultants. Of the total number of patients 3,323 (59·3%) were aged less than 35 years and 1,934 (34·5%) had 3 or more children. One had carcinoma of the cervix and was treated by hysterectomy, and nine had a cone biopsy for carcinoma-in-situ. None of 1,290 women from industrial firms or 42 women Corporation employees had positive findings.

Among patients attending at the age of 65 the Retirement Clinic at St. George Health Centre, rather less than 1 in 10 new patients were found to be fit for their age. The most common single problem continued to be significant overweight, cardiovascular and locomotor disorders and, less often, genito-urinary and psychological problems. 1 in 10 of the patients needed, on average, two further examinations to assess progress.

By the use of age and sex registers that are created at each health centre and held by some general practitioners in their own premises, it should be possible to invite people at greater risk of contracting serious but treatable conditions to special medical examinations.

Health Centre Development

St. John's Lane Health Centre, converted from the clinic, opened in June and Horfield Health Centre in December. It is expected that Fishponds Health Centre will be operational in September 1971. Work on the conversion of Charlotte Keel Clinic into a Health Centre started in March 1971 and plans have been discussed for Health Centres in Easton and Whatley Road, Clifton.

Retirements

Among the staff who retired during the year were Dr. Helen M. Gibb, Senior Departmental Medical Officer, who joined the staff in 1944 and, in recent years, had been a much valued member of the team at the Hearing and Speech Centre. Dr. John L. S. James, a Departmental Medical Officer since 1938, retired from full time service in September, and he will be remembered for highly skilled work in dental anaesthesia and, latterly, in connection with the B.C.G. vaccination programme.

Among others who retired during the year were Miss Clara Hibberd, who had been a member of the staff since 1951 and worked for several years as a health visitor in the central area of the city; Miss Josephine Dash, a domiciliary midwife since 1945; Mr. Wallace Sparrow, a Mental Welfare Officer since August 1947; Mr. James Farnery, an Ambulance Driver Attendant since February 1949; and Miss Grace Preston, a general assistant in the Home Help Section of the Department since 1951.

I am grateful to the many contributors to this report, both named and un-named, and to the whole of the staff of the Department who have given me loyal and willing service. The Chairman and Vice-Chairman of the Social Services Committee have shown whole-hearted support and I greatly appreciate the help and guidance I have received from fellow Chief Officers. I am also indebted to my deputy, Dr. J. F. Skone, who has edited and collated this report.

I am your obedient servant,

R. C. WOFINDEN

SOCIAL SERVICES COMMITTEE 1970

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PRINCIPAL STAFF, 1970

MEDICAL OFFICER OF HEALTH AND SOCIAL SERVICES

R. C. WOFINDEN, M.D., M.R.C.P., D.P.H., D.P.A.

Deputy Medical Officer of Health: J. F. Skone, M.D., D.P.H., D.C.H., D.I.H.

Principal Welfare Services Officer: R. C. Travill, LL.B., D.P.A.

PRINCIPAL ASSISTANTS

Senior Principal Medical Officer of Health and Principal Medical Officer for Mental Health: H. Temple Phillips, M.D., D.P.H., D.C.H., D.I.H.

Principal Medical Officer—Maternal and Child Health: Sarah C. B. Walker, M.D., D.P.H.

Principal Medical Officer—School Health Service: A. L. Smallwood, M.D., D.P.H., D.C.H.

Principal Medical Officer—Epidemiology: A. J. Rowland, M.B., D.P.H.

Principal Medical Officer—Occupational Health: J. W. Markham, M.B., D.P.H., D.I.H.

(to 17th July)

E. P. Hamblett, M.D., D.P.H., D.C.H.

D.T.M. & H.

(from 1st October)

Principal Medical Officer—Port: G. N. Febry, M.B., D.P.H.

Chief Dental Officer: J. McCaig, L.D.S., R.F.P.S.

Chief Public Health Inspector: G. J. Creech, M.B.E., C.St.J., F.R.S.H., M.A.P.H.I.

Chief Administrative Officer: R. L. Hillman, B.A., A.I.M.T.A.

Chief Nursing Officer: Margaretta Marks Jones, S.R.N., S.C.M., H.V., N.A.C.

(Public Health)

PROFESSIONAL AND TECHNICAL OFFICERS

Chief Ambulance Officer: E. C. G. Joy.

Health Education Officer: P. Mackintosh, B.A.

Systems and Programming Assistant: B. A. Parker.

Nutritionist: Margaret Chapman, S.R.D.

Senior Medical Social Worker: Marion Moncaster, A.M.I.M.S.W.

SCIENTIFIC ADVISER

E. G. Whittle, B.Sc., F.R.I.C.

VITAL STATISTICS & EPIDEMIOLOGY

A. J. Rowland, M.B., Ch.B., D.P.H.

(Principal Medical Officer—Epidemiology)

M. R. F. Reynolds, M.B., Ch.B., D.P.H.

(Senior Departmental Medical Officer)

H. R. Cayton, M.B., Ch.B., F.C.Path.

(Director of the Public Health Laboratory, Bristol)

Mrs. Celia H. Perry

(Meteorological Officer, University of Bristol)

VITAL STATISTICS

	1970	1969	1968	1967	1966	1965
POPULATION	426,370	427,230	427,780	429,020	429,370	430,900
AREA IN ACRES	27,073	27,073	27,073	27,073	27,073	26,350
NUMBER OF MARRIAGES	4,256	3,872	3,980	3,786	3,933	3,657
LIVE BIRTHS						
Legitimate M. 2883 F. 2720	5,603	5,776	6,032	6,261	6,587	6,859
Illegit. M. 330 F. 323	653	686	699	742	714	741
Illegit. expressed as percentage of all births ...	10.4%	10.6%	10.4%	10.6%	9.8%	9.7%
Total Births	6,256	6,462	6,731	7,003	7,301	7,600
Live Birth Rate (Crude) ...	14.7	15.1	15.7	16.3	17.0	17.6
Adjusted Birth Rate ...	15.1	15.6	16.2	16.8	17.5	18.1
STILLBIRTHS						
Legitimate M. 42 F. 33	75	67	96	79	98	109
Illegit. M. 4 F. 5	9	13	7	12	11	11
Total Stillbirths	84	80	103	91	109	120
Stillbirth Rate	13.2	12.2	15.1	12.8	14.7	15.5
Total Live and Stillbirths ...	6,340	6,542	6,834	7,094	7,410	7,720
INFANT DEATHS						
Infant Mortality Rate—Total	19.8	16.2	17.1	16.8	17.3	21.6
„ „ Legit. Births	19.5	15.2	17.2	16.5	17.2	21.4
„ „ Illeg. Births	23.0	24.8	15.7	20.2	18.2	22.9
Neo-Natal Mortality Rate ...	14.7	10.2	11.1	12.3	11.8	14.5
Early Neo-Natal Mortality Rate	11.7	8.4	8.8	10.7	10.7	12.5
Peri-Natal Mortality Rate ...	24.8	20.5	23.7	23.4	25.2	27.8
MATERNAL DEATHS						
Number of deaths	1	1	4	—	4	2
Maternal Mortality Rate ...	0.16	0.15	0.59	—	0.54	0.26
DEATHS AT ALL AGES						
Male 2,748 Female 2,668	5,416	5,425	5,329	5,044	5,426	5,311
Death Rate (Crude) ...	12.7	12.7	12.5	11.8	12.6	12.3
Adjusted Death Rate ...	12.2	12.1	11.8	11.1	11.7	11.6

TABLE 1

TOTAL DEATHS OF BRISTOL CITIZENS BY CAUSE AND AGE,

REGISTRATIONS DURING THE CALENDAR YEAR 1970

(Compiled from figures supplied by the Registrar General)

CAUSE OF DEATH						Sex	Total at all ages	0 -	1 -	5 -	15 -	45 -	65 -	75 +
All Causes	...	...	...	...	...	M	2,746	74	10	9	100	758	843	952
						F	2,670	50	10	9	64	377	607	1,553
Enteritis and other diarrhoeal diseases	...	...	...	...	...	M	4	1	2	—	—	1	—	—
						F	3	1	1	—	—	—	1	—
Tuberculosis of respiratory system	...	...	...	...	...	M	4	—	—	—	—	2	1	1
Late effects of respiratory T.B.	...	...	...	...	...	M	5	—	—	—	—	2	—	3
						F	1	—	—	—	—	1	—	—
Other tuberculosis	...	...	...	...	...	F	1	—	—	—	—	—	—	1
Syphilis and its sequelae	...	...	...	...	...	M	2	—	—	—	—	—	2	—
Other infective and parasitic diseases	...	...	...	...	...	M	1	—	—	—	—	1	—	—
Malignant neoplasms, buccal cavity, etc.	...	...	...	...	...	M	11	—	—	—	—	2	4	5
						F	5	—	—	—	—	1	2	2
Malignant neoplasm, oesophagus	...	...	...	...	...	M	12	—	—	—	—	2	4	6
						F	13	—	—	—	—	4	5	4
Malignant neoplasm, stomach	...	...	...	...	...	M	60	—	—	—	—	15	25	20
						F	51	—	—	—	—	10	10	31
Malignant neoplasm, intestine	...	...	...	...	...	M	59	—	—	—	—	21	17	21
						F	88	—	—	—	—	24	27	37
Malignant neoplasm, larynx	...	...	...	...	...	M	9	—	—	—	—	5	3	1
Malignant neoplasm, lung, bronchus	...	...	...	...	...	M	223	—	—	—	2	91	95	35
						F	34	—	—	—	2	12	9	11
Malignant neoplasm, breast	...	...	...	...	...	F	83	—	—	—	6	37	23	17
Malignant neoplasm, uterus	...	...	...	...	...	F	31	—	—	—	3	12	6	10
Malignant neoplasm, prostate	...	...	...	...	...	M	39	—	—	—	—	5	13	21
Leukaemia	...	...	...	...	...	M	19	—	—	3	2	5	6	3
						F	11	—	—	—	1	4	3	3
Other malignant neoplasms	...	...	...	...	...	M	132	—	1	—	6	53	44	28
						F	137	1	2	—	9	39	38	48
Benign and unspecified neoplasms	...	...	...	...	...	M	8	1	—	—	1	1	2	3
						F	5	—	—	—	2	3	—	—
Diabetes mellitus	...	...	...	...	...	M	14	—	—	—	1	2	5	6
						F	20	—	—	—	—	2	5	13
Avitaminoses, etc.	...	...	...	...	...	M	2	—	—	—	—	1	—	1
						F	2	—	—	—	—	—	—	2
Other endocrine etc. diseases	...	...	...	...	...	M	5	1	1	—	—	2	1	—
						F	7	—	—	1	1	2	2	1
Anaemias	...	...	...	...	...	M	4	—	—	—	—	—	1	3
						F	11	1	—	1	—	1	3	5
Other diseases of blood, etc.	...	...	...	...	...	F	2	—	—	—	—	—	1	1
Mental disorders	...	...	...	...	...	M	1	—	—	—	—	—	1	—
						F	6	—	—	—	—	1	1	4
Meningitis	...	...	...	...	...	M	3	2	—	—	—	—	1	—
						F	1	—	—	—	—	—	1	—
Multiple sclerosis	...	...	...	...	...	M	2	—	—	—	—	2	—	—
						F	7	—	—	—	2	2	3	—
Other diseases of nervous system, etc.	...	...	...	...	...	M	26	1	—	—	4	7	8	6
						F	27	—	2	—	2	6	10	7
Chronic rheumatic heart disease	...	...	...	...	...	M	26	—	—	—	4	11	4	7
						F	34	—	—	—	2	13	7	12
Hypertensive disease	...	...	...	...	...	M	37	—	—	—	1	12	12	12
						F	52	—	—	—	1	6	7	38
Ischaemic heart disease	...	...	...	...	...	M	809	—	—	—	16	287	256	250
						F	628	1	—	—	2	61	160	404
Other forms of heart disease	...	...	...	...	...	M	83	—	—	—	1	21	20	41
						F	142	—	—	—	1	7	22	112
Cerebrovascular disease	...	...	...	...	...	M	270	—	—	—	2	56	86	126
						F	441	—	—	—	5	50	84	302
Other diseases of circulatory system	...	...	...	...	...	M	111	—	—	—	1	17	30	63
						F	168	1	—	—	—	6	38	123
Influenza	...	...	...	...	...	M	39	—	—	—	2	10	17	10
						F	50	—	—	—	—	10	14	26
Pneumonia	...	...	...	...	...	M	194	7	1	1	1	21	52	111
						F	271	1	1	—	1	17	58	193
Bronchitis and emphysema	...	...	...	...	...	M	229	—	—	—	1	50	82	96
						F	61	1	—	—	1	12	12	35
Asthma	...	...	...	...	...	M	5	—	—	—	—	2	2	1
						F	10	—	—	—	2	5	2	1
Other diseases of respiratory system	...	...	...	...	...	M	22	1	—	—	1	4	9	7
						F	13	2	1	—	—	1	5	4
Peptic ulcer	...	...	...	...	...	M	20	—	—	—	1	4	7	8
						F	21	—	—	—	—	—	5	16

CAUSE OF DEATH							Total at all ages	0-	1-	5-	15-	45-	65-	75+
Appendicitis	M	1	—	—	—	—	1	—	—	—	—	1	—	—
	F	3	—	—	1	—	—	—	—	—	—	1	—	1
Intestinal obstruction and hernia	M	9	1	1	—	—	—	—	—	—	—	1	2	4
	F	15	3	—	—	—	—	—	—	—	—	—	1	11
Cirrhosis of liver	M	6	—	—	—	—	—	—	—	—	—	4	—	—
	F	4	—	—	—	—	—	—	—	—	—	—	2	2
Other diseases of digestive system	M	24	1	—	1	—	—	—	—	1	5	8	8	8
	F	34	—	—	—	—	—	—	—	1	7	7	19	—
Nephritis and nephrosis	M	7	—	—	—	—	—	—	—	3	2	2	—	2
	F	7	—	—	—	—	—	—	—	1	2	2	2	2
Hyperplasia of prostate	M	13	—	—	—	—	—	—	—	—	—	—	2	11
	F	13	—	—	—	—	—	—	—	1	4	2	2	6
Other diseases of genito-urinary system	M	20	—	—	—	—	—	—	—	—	2	5	—	13
	F	1	—	—	—	—	—	—	—	1	—	—	—	—
Other complications of pregnancy, etc.	M	1	—	—	—	—	—	—	—	—	—	—	—	1
	F	3	—	—	—	—	—	—	—	—	—	—	1	2
Diseases of skin, subcutaneous tissue	M	7	—	—	—	—	—	—	—	1	—	—	1	5
	F	27	—	—	—	—	—	—	—	—	6	8	—	13
Diseases of musculo-skeletal system	M	19	13	1	—	—	—	—	—	3	1	—	—	1
	F	17	14	—	1	—	—	—	—	1	—	—	1	—
Congenital Anomalies	M	23	23	—	—	—	—	—	—	—	—	—	—	—
	F	14	14	—	—	—	—	—	—	—	—	—	—	—
Birth injury, difficult labour, etc.	M	11	11	—	—	—	—	—	—	—	—	—	—	—
	F	7	7	—	—	—	—	—	—	—	—	—	—	—
Other causes of perinatal mortality	M	12	11	—	—	—	—	—	—	—	—	—	—	1
	F	6	2	—	—	—	—	—	—	—	—	—	—	4
Symptoms and ill-defined conditions	M	43	—	1	3	—	—	—	—	20	8	3	8	8
	F	20	—	1	4	—	—	—	—	4	5	5	1	9
Motor vehicle accidents	M	42	—	2	1	—	—	—	—	13	11	6	9	20
	F	37	—	2	1	—	—	—	—	4	2	8	2	3
All other accidents	M	20	—	—	—	—	—	—	—	9	6	2	1	—
	F	11	—	—	—	—	—	—	—	5	2	3	—	—
Suicide and self-inflicted injury	M	5	—	—	—	—	—	—	—	2	—	3	—	—
	F	7	1	—	—	—	—	—	—	4	1	—	—	1
All other external causes	M	—	—	—	—	—	—	—	—	—	—	—	—	—
	F	—	—	—	—	—	—	—	—	—	—	—	—	—

TABLE 2

CAUSES OF DEATH REGISTERED DURING THE CALENDAR YEAR 1970
(Compiled from figures supplied by the Registrar General)

Death Rate per million population	Cause of Death					No. of Deaths 1970	Percentage of total deaths
16	Enteritis and other diarrhoeal diseases ... ..	...	...	...	...	7	0.1
9	Tuberculosis of respiratory system ... ..	...	...	...	...	4	0.1
16	Other tuberculosis, including late effects ... ..	...	...	...	...	7	0.1
7	Other infective and parasitic diseases ... ..	...	...	...	...	3	0.1
38	Malignant neoplasm—buccal cavity etc. ... ..	...	...	...	...	16	0.3
59	Malignant neoplasm—oesophagus ... ..	...	...	...	...	25	0.5
260	Malignant neoplasm—stomach ... ..	...	...	...	...	111	2.0
345	Malignant neoplasm—intestine ... ..	...	...	...	...	147	2.7
21	Malignant neoplasm—larynx .. ...	...	...	...	...	9	0.2
603	Malignant neoplasm—lung, bronchus ... ..	...	...	...	...	257	4.7
195	Malignant neoplasm—breast ... ..	...	...	...	...	83	1.5
73	Malignant neoplasm—uterus ... ..	...	...	...	...	31	0.6
91	Malignant neoplasm—prostate ... ..	...	...	...	...	39	0.7
70	Leukaemia ... ..	...	...	...	...	30	0.6
631	Other malignant neoplasms ... ..	...	...	...	...	269	5.0
30	Benign and unspecified neoplasms ... ..	...	...	...	...	13	0.2
80	Diabetes mellitus ... ..	...	...	...	...	34	0.6
9	Avitaminoses, etc. ... ..	...	...	...	...	4	0.1
28	Other endocrine etc. diseases ... ..	...	...	...	...	12	0.2
35	Anaemias ... ..	...	...	...	...	15	0.3
5	Other diseases of blood, etc. ... ..	...	...	...	...	2	0.0
16	Mental disorders ... ..	...	...	...	...	7	0.1
9	Meningitis ... ..	...	...	...	...	4	0.1
21	Multiple sclerosis ... ..	...	...	...	...	9	0.2
124	Other diseases of nervous system, etc. ... ..	...	...	...	...	53	1.0
141	Chronic rheumatic heart disease ... ..	...	...	...	...	60	1.1
209	Hypertensive disease ... ..	...	...	...	...	89	1.6
3,370	Ischaemic heart disease ... ..	...	...	...	...	1,437	26.5
528	Other forms of heart disease ... ..	...	...	...	...	225	4.2
1,668	Cerebrovascular disease ... ..	...	...	...	...	711	13.1
654	Other diseases of circulatory system ... ..	...	...	...	...	279	5.2
209	Influenza ... ..	...	...	...	...	89	1.6
1,091	Pneumonia ... ..	...	...	...	...	465	8.6
680	Bronchitis and emphysema ... ..	...	...	...	...	290	5.4

<i>Death Rate per million population</i>	<i>Cause of Death</i>	<i>No. of Deaths 1970</i>	<i>Percentage of total deaths</i>
35	Asthma	15	0.3
82	Other diseases of respiratory system	35	0.6
96	Peptic ulcer	41	0.8
9	Appendicitis	4	0.1
56	Intestinal obstruction and hernia	24	0.4
23	Cirrhosis of liver	10	0.2
136	Other diseases of digestive system	58	1.1
33	Nephritis and nephrosis	14	0.3
30	Hyperplasia of prostate	13	0.2
77	Other diseases of genito-urinary system	33	0.6
2	Other complications of pregnancy, etc.	1	0.0
9	Diseases of skin, subcutaneous tissue	4	0.1
80	Diseases of musculo-skeletal system	34	0.6
84	Congenital anomalies	36	0.7
87	Birth injury, difficult labour, etc.	37	0.7
42	Other causes of perinatal mortality	18	0.3
42	Symptoms and ill-defined conditions	18	0.3
148	Motor vehicle accidents	63	1.2
185	All other accidents	79	1.5
73	Suicide and self-inflicted injuries	31	0.6
28	All other external causes	12	0.2
12,703	ALL CAUSES	5,416	100.0

NOTE: 0.0 denotes less than 0.05 per cent.

TABLE 3

INFANT MORTALITY (Local figures, corrected for transfers)

<i>Cause of death</i>	<i>Total 1970</i>	<i>First Day</i>	<i>From one day to under one week</i>	<i>From one week to under four weeks</i>	<i>Total under four weeks</i>	<i>Total from one month to under one year</i>
Enteritis and diarrhoea diseases	1	—	—	—	—	1
Meningitis	2	—	—	2	2	—
Benign and unspecified neoplasms	1	—	—	1	1	—
Anaemias	1	—	—	1	1	—
*Pneumonia	10	2	2	1	5	5
Bronchitis	1	—	—	—	—	1
*Other respiratory diseases	4	1	—	1	2	2
*Congenital anomalies	32	8	8	8	24	8
*Birth injury, difficult labour, and other anoxic and hypoxic conditions	36	22	12	2	36	—
*Other causes of peri-natal mortality	20	13	7	—	20	—
All other causes	15	—	—	1	1	14
TOTALS	123	46	29	17	92	31
Rate per 1,000 live births (1970)	19.7	7.4	4.6	2.7	14.7	5.0
Rate per 1,000 live births (1969)	16.2	3.9	4.5	1.9	10.2	6.0

* Where there has been mention of prematurity

1970	...	39
1969	...	32
1968	...	31
1967	...	48

1970 infant deaths in:

Hospitals	101	(includes 3 in hospitals outside Bristol)
Private nursing homes	Nil	
Private residences, ambulances etc.	22	

TABLE 4

INFECTIOUS DISEASES NOTIFIED DURING 1970

NOTIFIABLE DISEASE	At all ages		Incidence by age groups (1970)					Incidence by quarters of 1970						
	1968	1969	1970	Under 1	1-4	5-14	15-24	25-44	45-64	65+	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Malaria ...	...	3	3	—	—	—	1	2	—	—	—	2	—	1
Scarlet Fever ...	128	176	87	1	29	47	10	—	—	—	31	18	17	21
Acute Encephalitis ...	...	1	25	—	6	14	2	3	—	—	1	10	9	5
Paratyphoid ...	...	3	3	—	—	2	—	—	1	—	1	—	1	1
Typhoid ...	...	3	2	—	1	—	—	1	—	—	—	1	1	—
Acute Meningitis ...	6*	5*	10	—	3	2	2	1	2	—	3	3	3	1
Infective jaundice ...	278	217	696	—	50	356	127	127	28	8	220	235	133	108
Glandular fever ...	152	107	137	—	3	23	96	15	1	—	43	36	21	37
Dysentery ...	197	502	192	2	77	64	16	29	4	—	70	51	41	30
Food poisoning (Confirmed cases) ...	41	146	88	6	17	9	18	24	12	2	12	17	44	15
Measles ...	933	1,462	1,384	89	739	536	15	5	—	—	252	480	485	167
Rubella ...	3,325	912	433	30	147	185	55	15	1	—	99	190	78	66
Whooping cough ...	261	21	39	4	18	17	—	—	—	—	7	10	10	12
Ophthalmia neonatorum ...	13	3	5	5	—	—	—	—	—	—	—	1	4	—

* Meningococcal Meningitis only

* Meningococcal Meningitis only

TABLE 5

TUBERCULOSIS NOTIFICATIONS

				CASES												65 and over
				Sex	At All Ages	Un- der one	1-	5-	10-	15-	20-	25-	35-	45-	55-	
1970 :																
<i>Pulmonary Tuberculosis</i>																
New notifications	...	...	...	M	47	—	1	2	1	2	2	2	10	12	7	8
				F	16	1	—	—	1	—	1	2	4	2	2	3
Transfers from other areas	...	...	...	M	11	—	—	—	—	—	2	1	2	4	2	—
				F	2	—	—	—	—	—	2	—	—	—	—	—
Deaths mentioning TB not otherwise notified	...	...	...	M	3	—	—	—	—	—	—	—	—	—	1	2
				F	—	—	—	—	—	—	—	—	—	—	—	—
<i>Non-pulmonary Tuberculosis</i>																
New notifications	...	...	...	M	7	—	1	—	—	—	1	3	1	—	1	—
				F	7	—	—	—	—	2	1	2	1	—	—	1
Transfers from other areas	...	...	...	M	1	—	—	—	—	—	1	—	—	—	—	
				F	—	—	—	—	—	—	—	—	—	—	—	—
Deaths mentioning TB not otherwise notified	...	...	...	M	1	—	—	—	—	—	—	—	—	1	—	—
				F	—	—	—	—	—	—	—	—	—	—	—	—
<i>New Notifications—</i>																
<i>Pulmonary—</i>																
1969	...	...	...	M	41	—	—	—	—	3	2	4	9	8	6	9
				F	19	—	2	—	—	1	2	5	2	4	—	3
1968	...	...	...	M	53	1	3	—	—	3	4	6	7	9	10	10
				F	25	—	—	—	2	1	2	6	3	8	2	1
1967	...	...	...	M	42	—	—	3	1	2	2	8	7	1	6	12
				F	26	—	2	1	1	5	1	4	4	3	2	3
1966	...	...	...	M	47	—	—	—	—	—	4	5	7	10	11	10
				F	29	—	—	—	1	1	7	5	3	3	6	3
1965	...	...	...	M	61	—	—	—	—	2	7	12	8	9	13	10
				F	26	—	—	—	—	3	3	2	4	5	4	5
<i>Non-Pulmonary—</i>																
1969	...	...	...	M	10	—	—	—	—	1	1	4	2	1	1	—
				F	7	—	—	—	2	—	—	2	1	—	1	1
1968	...	...	...	M	5	—	—	1	—	—	1	—	—	1	—	
				F	6	—	—	—	—	—	—	3	2	1	—	—
1967	...	...	...	M	7	—	1	1	—	—	—	1	2	1	1	—
				F	8	—	—	—	—	—	—	4	2	—	—	2
1966	...	...	...	M	3	—	—	—	—	—	—	—	—	2	1	—
				F	10	—	—	—	—	—	1	4	2	—	3	—
1965	...	...	...	M	5	—	—	—	—	2	—	—	1	—	2	—
				F	7	—	—	—	—	—	1	1	2	3	—	—

ANALYSIS OF IMMUNOLOGICAL PROCEDURES COMPLETED DURING 1969/1970

25

MORTALITY

During 1970, 5,416 Bristol citizens died, giving an adjusted death rate of 12·2 per thousand population.

There were 2,000 deaths from cardiovascular disease, representing more than one in three of the total deaths for the year. Included in these were 1,437 deaths from ischaemic heart disease (coronary disease) 809 of which were in men and 628 in women.

Malignant disease accounted for a further 1,016 deaths, 257 of these were caused by cancer of the lung and bronchus. Cancer of the gastro-intestinal tract caused 283 deaths—a more detailed breakdown is shown in table 7. Although it is usual for the death rate from gastro-intestinal cancer to be greater in men, Bristol clearly did not follow this pattern in 1970.

Table 7. Deaths from cancer of the digestive tract. Bristol, 1970

Organ	Deaths in		Total Deaths	Death rate per million
	Males	Females		
Stomach	60	51	111	260
Intestine	59	88	147	345
Oesophagus	12	13	25	59
Totals	131	152	283	—
Death rates by sex ..	627	678	—	—

Examination of the trends in cancer in Bristol over recent years shows that mortality from this form of disease has been increasing steadily since the early part of the century; this is of course the trend seen in the nation as a whole. Much of the increase has been associated with the steady rise in lung cancer mortality since the 1930's. In the last twenty years leukaemia death rates have also risen, although there has been a check over the last five years. Deaths from stomach cancer have been showing a steady decline, but there has been no appreciable change in mortality from breast or uterine cancers. These trends are illustrated in figures 1 and 2.

Deaths due to violence in 1970 amounted to 187. These included 143 due to accidents and 30 due to suicide. Details of these are shown in tables 8 and 9.

Table 8. Bristol deaths due to accidents, 1970

Road traffic accidents	63
Accidents in the home	42
Industrial accidents	6
Other accidents	32
Total accidental deaths	143

Table 9. Bristol deaths due to suicide, 1970

Age and sex distribution				Distribution by method	
	Males	Females	Persons		
20—29	1	2	3	Aspirin	— 2
30—39	3	2	5	Barbiturate or narcotic	2 4
40—49	6	3	9	Other drug	— 1
50—59	3	1	4	Domestic gas	5 2
60—69	2	1	3	Other CO gas	1 —
70—79	3	2	5	Fall	4 1
80 and over	—	1	1	Drowning	1 1
All ages	18	12	30	Hanging	4 —
				Sharp instrument	— 1
				Fire arm	1 —

The figures in these tables show no difference of note from those of previous years.

INFECTIOUS DISEASES DUE TO BACTERIA

Tuberculosis

There were 63 cases of pulmonary tuberculosis and 14 cases of the non-pulmonary form notified during the year. Four deaths directly attributable to tuberculosis occurred in Bristol citizens, and there were a further seven deaths in which tuberculosis played some part. The total (77 cases) remains similar to those in recent years. Notifications have been falling steadily over the last

decade, but there are now signs that the rate of fall is decreasing as the number of cases becomes fewer. Most important, as an index of infection still active in the community, is the occurrence of tuberculosis in young persons. There were 8 cases of pulmonary tuberculosis in persons under 20 years old, representing 12·7% of all cases notified. This proportion compares with 7·7% in 1969, and 11·5% in 1968. Details of notifications in young persons, including two cases of non-pulmonary tuberculosis, are shown in Table 10.

Table 10
NOTIFICATIONS OF TUBERCULOSIS IN PERSONS AGED LESS THAN 20 YEARS

	0-	5-	10-	15-19	Total
Pulmonary	2	2	2	2	8
Non-pulmonary	0	0	0	2	2

Both cases of non-pulmonary tuberculosis, and one case of pulmonary disease occurred in immigrants. Of the remaining seven cases of pulmonary tubercle, the source was traced to a close household contact in all except one.

At this stage in the battle against tuberculosis, we must resist any tendency to become less aware of its potential. Redoubled efforts to detect and control infectious cases will be necessary in coming years if we are to see the incidence of new cases continuing to fall.

Tuberculin testing and BCG

As part of the drive to control tuberculosis, children nearing the end of their school career are vaccinated against the disease. Details of this work are given in that part of my annual report dealing with the School Health Service. Prior to the administration of BCG, the children are tested by means of the Heaf tuberculin test, in order to detect those who have converted from tuberculin negative to tuberculin positive through the natural process of infection as well as to assess the protection effected by any previous vaccinations. The natural conversion rate is a measure of the exposure of children to tuberculosis. During the past decade it has declined, although there was a rise between 1965 and 1966 which at the time was attributed to inadequate standardisation of the technique used by several medical officers. Since then practically all tests have been carried out by one medical officer.

Trends in the natural conversion rate, and in notifications of tuberculosis, over the last ten years are illustrated in figures 3 and 4.

Whooping Cough

Only 39 cases of whooping cough were notified in 1970. There is thus no significant change since 1969, when 21 cases were notified. All notified cases are checked to ascertain their vaccinal status. Of this year's cases 32 (82%) had not been adequately protected.

In general, the acceptance of whooping cough vaccine in Bristol is satisfactory; 87% of children are protected by the time they reach the age of two years.

Bacterial meningitis

There were 10 cases of bacterial meningitis notified; of these two were due to meningococcal infection.

Whenever cases are notified, a domiciliary visit is made to assess the home circumstances, and when considered necessary, bacteriological swabs are taken from contacts.

Gastro intestinal infections due to bacteria

Dysentery

The number of notifications received in 1970 was well below the average. There have been only two years with a smaller number during the last decade. The new arrangements for domiciliary follow-up introduced in 1969 continued to work well.

Food Poisoning

The vast majority of food poisoning cases reported during 1970 were, as usual, due to infection with salmonellae. There were however two occurrences in which unidentified organisms are thought to have been involved. In one of these, eight of ten persons who ate at a party were sub-

sequently ill with diarrhoea and vomiting. No left-over food was available for examination, and no organism was isolated from any of those affected. On the other occasion a girl was admitted to hospital with severe diarrhoea and vomiting after eating warmed up food at home. Her mother was also affected. The clinical and epidemiological characteristics of the episode suggested a staphylococcal origin, although again this was not confirmed bacteriologically.

There were in all 82 cases of infection with salmonellae, and 22 different serotypes were isolated during the year. These are shown in the following table.

Salmonellae isolated in Bristol in 1970

Salmonella	typhimurium	28
„	enteritidis	21
„	agama	6
„	panama	3
„	heidelberg	3
„	virchow	2
„	newport	2
„	infantis	2
„	St. Paul	2
„	Others*	13
		—
		82
		—

* One each of: *S. Melebridis*, *S. kapemba*, *S. oranienburg*, *S. 4*; *12*; *D*, *S. Eastbourne*, *S. derby*, *S. reading*, *S. bredeney*, *S. thompson*, *S. sofia*, *S. dublin*, *S. agona*, *S. stanley*.

Typhoid Fever

The first of the two cases which occurred during the year was in a four-year-old Pakistani girl. She had a mysterious illness which progressed despite the general practitioner's treatment, and was admitted to hospital after three weeks of being generally unwell. Investigations revealed that she had typhoid fever which responded well to treatment. Further investigations showed that the child's grandmother who was living with the family was infected, although she had no attributable symptoms. She was also treated in hospital. It was concluded that the child had caught the illness from her grandmother who was a carrier. The grandmother subsequently died and was found to have had pulmonary tuberculosis as well.

The second case was in a twenty-six-year-old man who had been for a holiday in Spain. Seven days after his return he developed headaches, vomiting and a fever. This continued for a further week when he was admitted to hospital and typhoid fever was diagnosed. He made a good recovery and was discharged home.

Contacts of the patient were traced and all the people who had gone on the package holiday were followed up but no further cases were revealed.

Paratyphoid Fever

Three cases of this disease were notified this year but there was no connecting factor between them and only two were finally confirmed as true paratyphoid.

A thirteen-year-old girl and a fourteen-year-old boy both presented with a history of fever and diarrhoea which did not respond to treatment at home. They were admitted to hospital and paratyphoid organisms were isolated. Contacts of the patients were not affected by the illness and the source of infection was not found.

These isolated incidents are always carefully examined. Because the illness may take up to four weeks to develop, it is often difficult to trace the source. If any other cases occur in which the history links up in some way, then a common source may become apparent and preventative measures taken to avoid a recurrence.

The third 'spurious' paratyphoid notification concerned a forty-six-year-old woman who had abdominal pain and diarrhoea whilst on holiday in Elba. She was admitted to hospital for treatment after her return to England and at the same time a detailed search for other cases was made amongst other members of the package holiday. No other cases were discovered and the patient made a good recovery. At a later date the final tests on the organism showed it to be *Salmonella sofia* and not paratyphoid.

INFECTIOUS DISEASES DUE TO VIRUSES

Influenza

By the end of 1969, the City was experiencing an influenza epidemic of moderate intensity (Annual Report 1969) which was caused by the new variant of the A2 virus which had first been recognised in 1968. The main impact of this epidemic fell in the period between Christmas 1969 and New Year's Day 1970, and by the second week of the New Year the incidence of new cases was considerably diminished. Sickness benefit claims showed a sharp increase during the first and second weeks of the year, but fell again in the third week. In the aftermath of the epidemic, 67 persons died as a direct result of influenza, and another 14 deaths occurred in which infection with influenza was undoubtedly contributory. Most of these deaths occurred in January. Since there were also 36 deaths in December 1969 which were directly attributable to influenza, the direct death toll in this epidemic was at least 103. These facts are illustrated in figure 5 and table 11.

Table 11. Deaths directly attributable to influenza by month of occurrence and age. Bristol C.B. 1969-70 epidemic

Month			Age groups					Total
			40-	50-	60-	70-	80-	
December 1969	...	...	1	5	8	17	5	36
January 1970	...	...	2	6	17	19	17	61
February 1970	...	...	—	—	—	1	5	6
Totals	...	...	3	11	25	37	27	103

Measles

There were 1,384 notified cases of measles in 1970, a total similar to that of 1,462 for 1969. The effect of the use of measles vaccine has been to alter the biennial pattern of the disease. However, we still see too much measles when we consider that an effective vaccine is available. Only five of the cases reported this year occurred in children who were known to have been vaccinated. In another case, the parent stated that the child had been vaccinated, but this could not be corroborated from records.

Table 12. Measles notified during 1970 and attack rates per 1,000, by year of birth

Year of birth	No. of children	No. of cases of measles notified	Attack rate per thousand
1970	6,256	26	4
1969	6,462	155	24
1968	6,731	167	25
1967	7,003	182	26
1966	7,301	208	28
1965	7,600	242	32
1964	7,517	228	30
1963	7,640	103	13
1962	7,249	24	3
1961	7,061	11	2
1960	6,889	7	1
All children born since 1959	77,709	1,353	17

Rubella

This year there were 433 notifications, as compared with 912 in the previous year.
During the year pregnancies came to notice in which there had been contact with rubella. These were noted, and the outcomes will be followed up in due course.

Outcome of 1969 pregnancies exposed to rubella

Contact with rubella was reported in association with pregnancy in ten cases notified by general practitioners. Follow-up of the outcome of these was attempted. This was reported as normal in five cases, one child was reported as being under observation because of a slightly increased head circumference. The remaining five could not be traced.

Infective jaundice

All cases of infective jaundice notified this year were cases of infectious hepatitis. There were 696 notifications, a rise of 479 on the previous year, making 1970 the year of highest incidence since 1961.

As shown in Table 4, the main impact of this increased incidence fell in the first two quarters of the year. The greatest concentration of cases occurred in the Hartcliffe and Bishopsworth areas of the City. Anxiety again occurred about the possible pollution of the streams in this area, but careful enquiries failed to elicit any suggestion that cases occurring in this part of the City were in children who had been playing in the streams.

The map, figure 8, shows the distribution of cases over the City.

Acute viral meningitis and encephalitis

An interesting feature this year has been the unusually large number of reported cases of post-infectious encephalitis due to mumps. Of a total of 25 cases of virus encephalitis in Bristol residents no fewer than 16 were associated with mumps. This is usually a mild condition, and two of the cases were nursed at home. There was undoubtedly a higher incidence of mumps than usual in Bristol which occurred mainly in the first half of the year.

Enteroviruses

The Bristol Public Health Laboratory isolated 30 enteroviruses during the year. Isolations of Coxsachie A16 continued in the early part of the year in association with the outbreak of Hand, Foot and Mouth Disease which started during 1969.

Echo viruses isolated

<i>Virus</i>	<i>No. of Isolations</i>
Echo 7	3
Echo 9	2
Echo 17	1
Echo 30	1
Total	7

Coxsachie viruses isolated

<i>Virus</i>	<i>No. of Isolations</i>
Coxsachie A4	2
Coxsachie A9	2
Coxsachie A16	3
Coxsachie B1	7
Coxsachie B2	3
Coxsachie B3	6
Total	23

On balance therefore, 1970 was a much quieter year from enterovirus incidence than was 1969. As usual, the majority of the isolations were made after June 30th.

Glandular fever

There were 137 notifications in 1970. The number of notifications received shows little variation from year to year. The following table shows the way in which the disease has occurred in each quarter of each year since it was made notifiable in 1963.

Table 13. Glandular fever in Bristol, 1963—1970

<i>Year</i>	<i>1st Qtr.</i>	<i>2nd Qtr.</i>	<i>3rd Qtr.</i>	<i>4th Qtr.</i>	<i>Total Cases</i>
1963	24	40	34	21	119
1964	21	39	31	51	142
1965	33	62	23	36	154
1966	35	37	20	26	118
1967	51	44	38	29	162
1968	30	49	38	35	152
1969	26	25	24	32	107
1970	43	36	21	37	137
All years	263	332	229	267	1,091

It is apparent that there is no evidence of a preponderance of notifications in any one part of the year.

OTHER CONDITIONS

Scabies

Scabies is no respecter of persons and is infectious to others even before any rash appears on the infested individual.

In recent years there has been some increase in the prevalence of this infestation in various parts of the country. In an attempt to limit dissemination in Bristol, all cases which come to the notice of the Health Department continue to be followed up with the help of health visitors and every effort is made to ensure that all close contacts are treated even though they may not have developed symptoms. Although the condition is not officially notifiable, doctors are encouraged to report the occurrences of cases to health visitors or district nurses or directly to the Central office. Contact tracing and surveillance is then controlled centrally.

During 1970, 50 family infestations were reported and complete follow-up was achieved in 36 of these. Apart from the 50 infested persons who initiated the enquiries (index cases), 63 of 139 contacts also developed symptoms. The source of the initial infestation is rarely identified and this year was no exception.

Source of referral of cases were as follows:

From General Practitioners:	
(a) through hospital O.P.D's.	18
(b) direct or through H.V.s	13
From school clinics or inspections	1
From clinics (spontaneous attendance)	1
From health visitors or district nurses	4
Others	10
Not stated	3

Special baths are only given in cases where treatment at home is impossible or is likely to be unreliable.

This year 7 males were treated for scabies at the Disinfecting Station at Feeder Road and 10 women or children were treated at the Central Health Clinic, Tower Hill.

Malaria.

Three cases were reported during the year: The first patient had a recurrence of the infection which he had contracted in 1969. Unfortunately the treatment had not been completely successful and because of this difficulty he was transferred to the London hospital where he had originally been seen.

The other two patients were found to be ill when their ships arrived at Avonmouth Docks. They had recently left countries where malaria can be contracted if adequate precautions are not taken. Fortunately they both responded well to treatment.

VACCINATIONS AND IMMUNISATIONS 1970

With the exception of german measles vaccination which is mentioned below, the recommended schedule remained the same as in 1969. The immunisation rate for children born in 1969 was 87% for diphtheria, whooping cough and tetanus and 81% for polio. Polio immunisation has run at a lower rate than the triple injection for several years and is obviously an area where more effort could be made. The overall rate is encouraging and would seem to indicate that most mothers now regard these routine protective injections as an accepted part of their child's upbringing.

In common with most other counties and county boroughs the number of children having primary smallpox vaccination is very much less than for triple injections. This is partly due to some children being excluded on medical grounds, but also because this measure is not seen to be so vital when the total world incidence of smallpox decreases yearly. Our policy is to encourage all children to have the vaccination during the second year of life as this is the time when they are least likely to be adversely affected by it.

Measles Vaccination

During the whole of the year adequate supplies of vaccine were available to offer the injection to any children between the ages of one and fifteen. An effort is being made to encourage mothers to regard the measles injection as part of the routine protection for their children. Normally this injection is offered during the child's second year of life and is given either by the family doctor or at the child health clinics.

In order to remind those mothers who had not had their children protected, a vaccination campaign was mounted from 12th to 23rd October 1970. Invitations, prepared by computer, were sent to the parents of children born from 1967 to 1969 and vaccination sessions were held

in the clinics throughout the City. During this fortnight 2,662 children had the injection and in the weeks following this the numbers attending the routine sessions increased both at family doctors' surgeries and in our clinics. This sustained after-effect was presumably a result of the publicity that the campaign itself received.

It is hoped, during 1971, to carry out a similar campaign directed at those children born in 1966. Although these campaigns are aimed at particular age groups, the routine clinic sessions still offer the injection to the whole age range.

The total of measles injections this year, 9,035, is the highest since the scheme was started and it is now hoped that a high acceptance rate during the second year of life will maintain a level of immunity in the community sufficient to prevent further epidemics of this disease.

German Measles

In July 1970 the Department of Health and Social Security recommended local authorities that vaccination against german measles should be offered to all girls between their 11th and 14th birthdays, but that initially priority should be given to girls in their 14th year. Due to delays in obtaining sufficient vaccine the campaign could not be commenced until October. This was further hampered by the schools being closed during the local authority workers' industrial action.

A start was made in mid-November and a team from the department visited secondary schools in Bristol to give the injections. It was encouraging to find a 79% acceptance rate in the schools that were visited before the end of the term. The campaign will be continued through the school year so that all girls in the appropriate age group will be offered the injection.

Foreign Travel Clinic

The new publication "Health in Bristol" had as the main item in its first issue an article by Dr. A. J. Rowland on the suggested arrangements to make before embarking on foreign travel. This dealt mainly with the protective injections which can be obtained through the family doctor or the Foreign Travel clinic. A leaflet "Ready to go Abroad?" was also produced to give information to prospective travellers. One of the main aims of this publicity was to encourage people to plan well in advance the injections they required so that they can be done at leisure, and not in a rush prior to departure.

A weekly session is held at the Central Health Clinic to provide yellow fever inoculations for those travellers who require this protection. In addition, people who need other protective injections for foreign travel but who are unable to receive these from their general practitioners are also given them at this clinic. Appointments are normally limited to the routine sessions as we then have the staff readily available. Not infrequently special appointments have to be made and this is usually because insufficient time has been allowed to fit in the various injections before leaving this country. Extra staff have to be used for this and vaccine may be wasted, so that an extra charge is made for the international certificates at these special appointments to cover the added expense.

In addition to injections given at the Central Health Clinic, large school parties planning holidays abroad have sessions arranged on the school premises. These cover both the pupils and those members of staff who are going with the group. At these sessions a total of 807 injections were given to children and staff. As these were mostly the typhoid and paratyphoid inoculation for which the full course is two injections, this total represents 433 completed courses for school groups.

During 1970, a total of 2,676 people completed their course of injections at the routine and special sessions at Central Clinic.

In the late summer and autumn the outbreaks of cholera in several foreign countries led to a shortage of vaccine in this country. Added to this, some countries required cholera inoculation in case the disease should spread to them. This meant that there was an increased demand for this injection in the city coupled with difficulty in obtaining the vaccine. For several months general practitioners were unable to give these injections and these people were referred to the foreign travel clinic. This increase in attendance made it necessary to hold some extra sessions and accounts for the rise over the previous year from 377 completed courses in 1969 to 666 in 1970. In fact because of the short notice many travellers received before travelling, they were only able to have the first injection of the two-dose course. This was adequate for international certification but falls short of the protection that we normally advise travellers to have. 935 travellers received one injection of cholera vaccine and 666 of these completed the course, which gives a better indication of the increase over 1969.

Inoculations given (completed courses only)

Yellow Fever	...	...	1,295
T.A.B.T.	...	...	410
Smallpox	...	...	651
Cholera	...	...	666*
Typhus ..	...	...	20

* See text for full explanation of cholera inoculations.

Reason for going abroad

Holiday	...	...	50%
Business	...	...	25%
Emigrants	...	...	9%
Repatriation	...	...	4%
Others	...	...	12%

75% travelled by air.

In addition, staff authenticated the general practitioner's signature on 1,241 cholera and 6,227 smallpox international certificates.

Research

During the year the section completed a period of collaboration with the district nursing service, during which a study was made of the effects of the attachment of district nurses to general practitioners. Attachment was shown to be beneficial to doctor, nurse and patient. Increased efficiency and satisfaction on all sides offset a relatively small increase in travelling costs. A full report appeared in the *British Medical Journal* (1970: 4: 545).

A pilot study into the effects of Hay fever on children attending comprehensive schools in Bristol showed that up to 6% of them were affected to some degree. It was decided to go ahead with a further investigation in 1971 which would be linked with a study of variations in the pollen count.

A trial of rubella vaccine was carried out shortly before its use became a matter of national policy. The trial, conducted in two girls' schools in the City, demonstrated that the vaccine was highly acceptable and was reliable in producing sero-conversion in non-immune girls. A report subsequently appeared in *The Medical Officer* (1971: 125: 317).

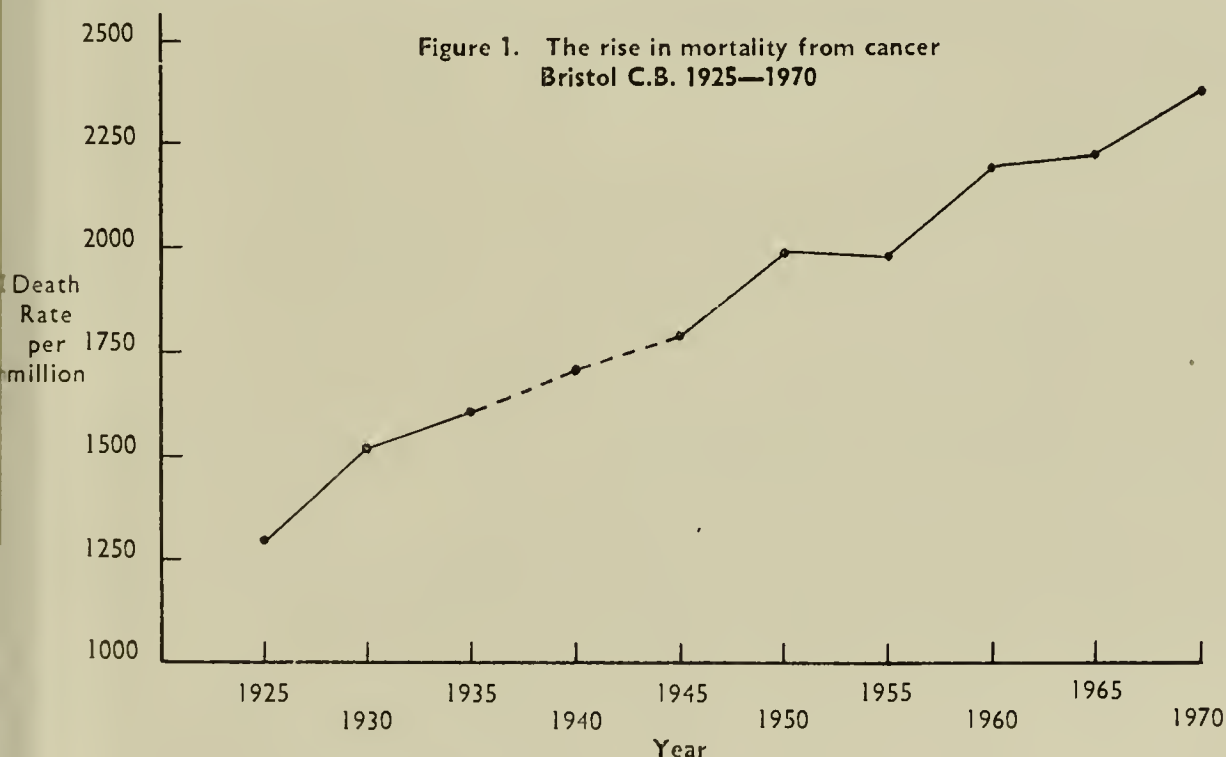
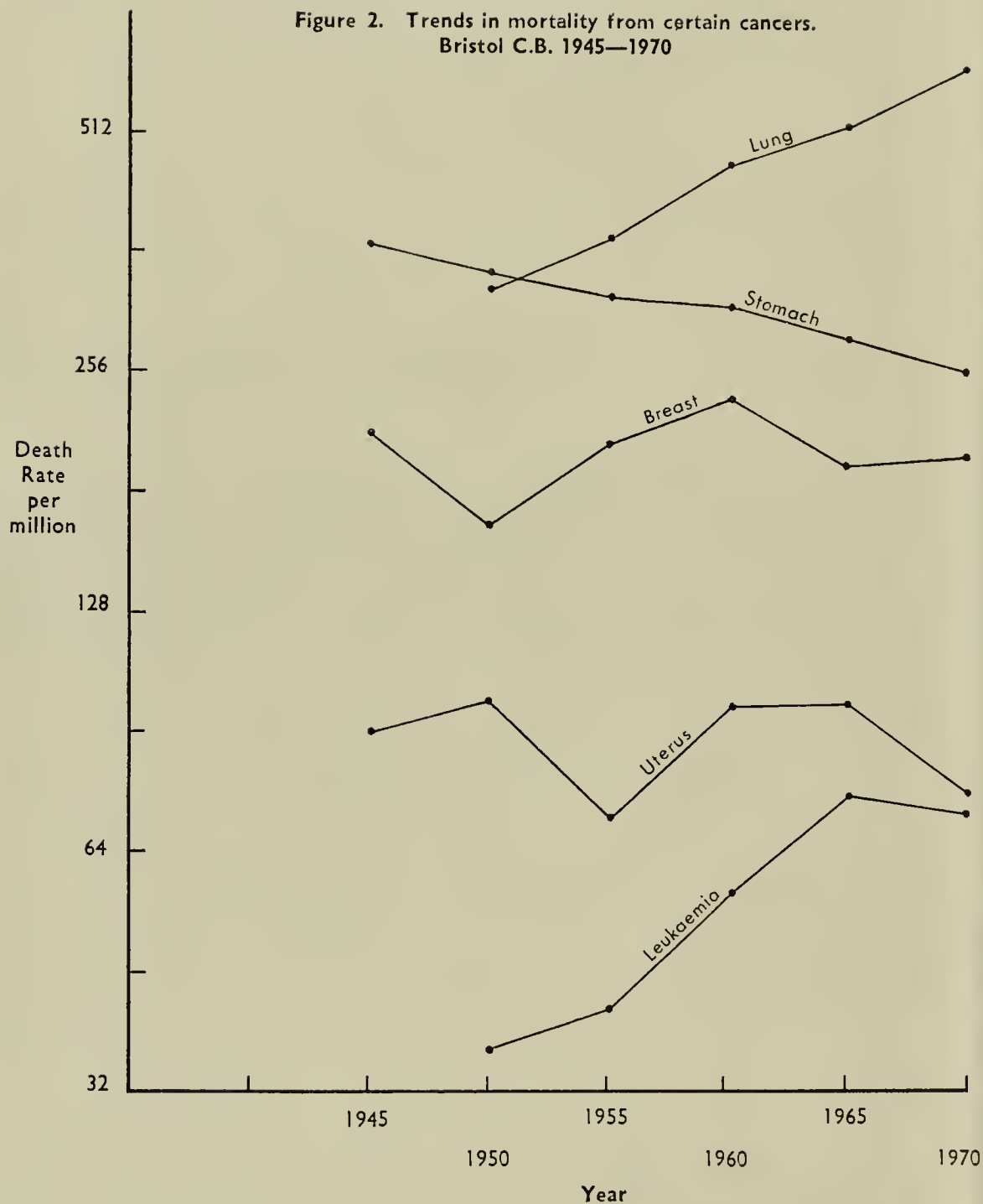
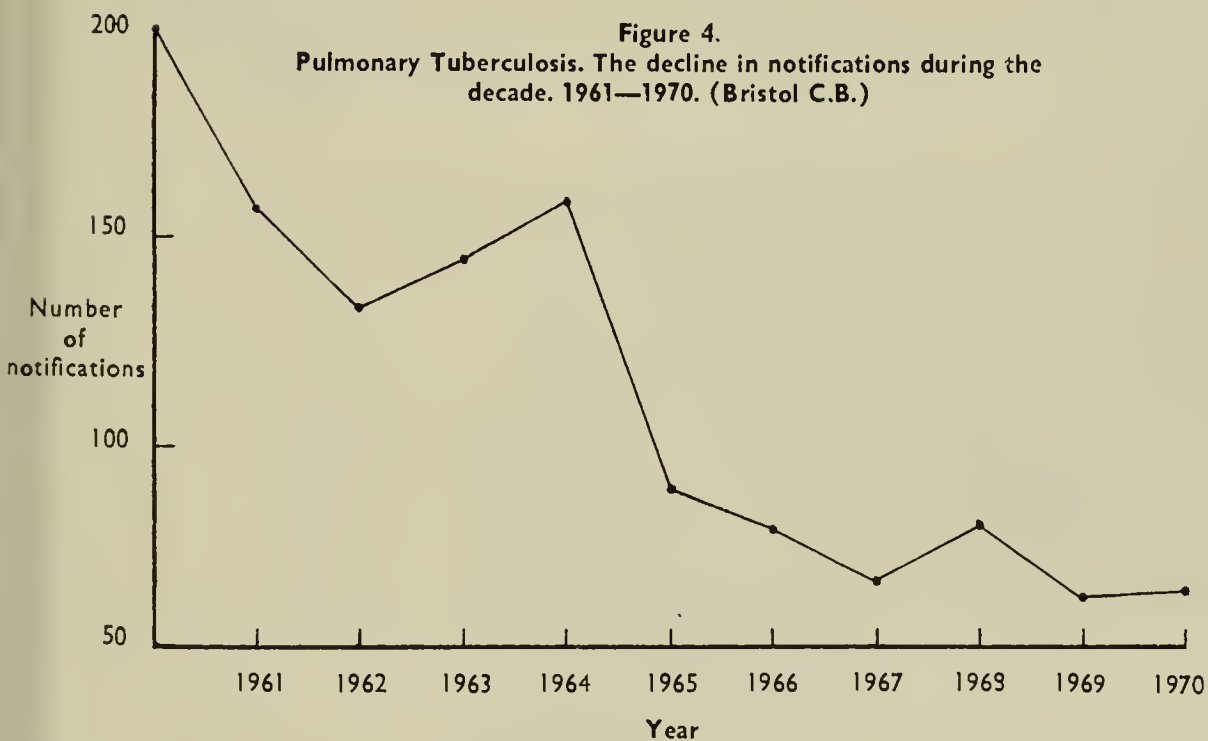
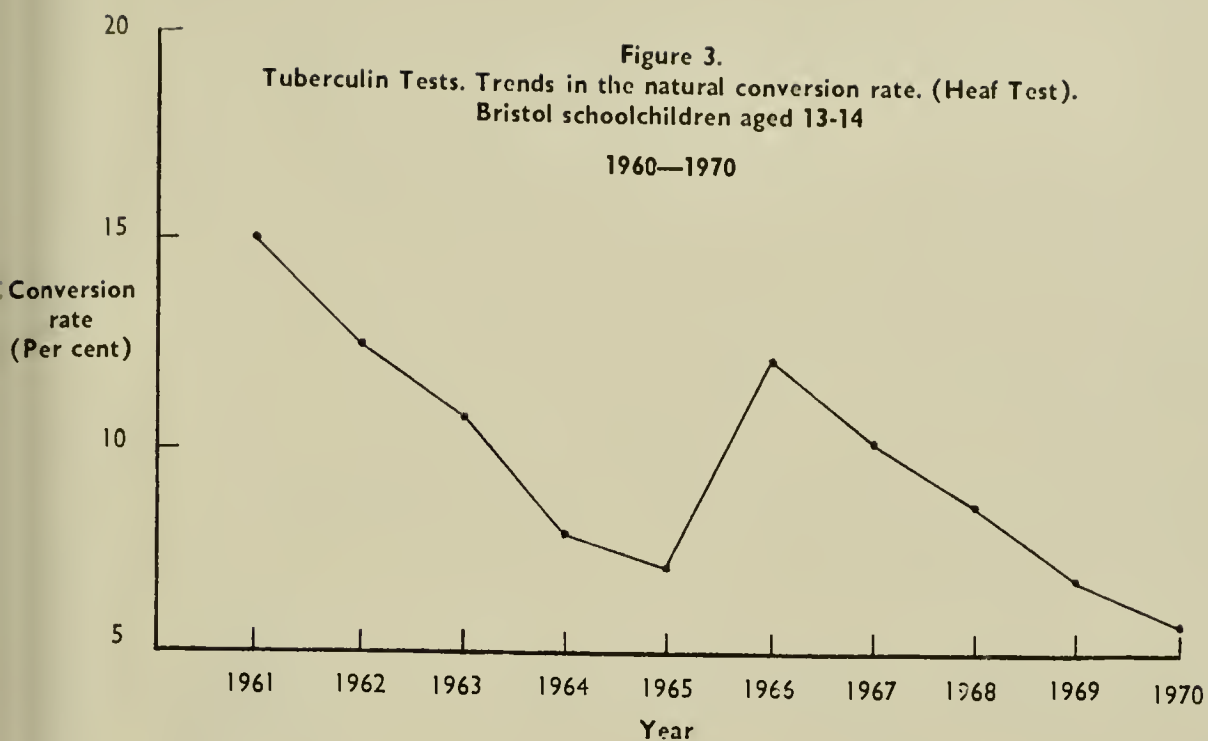


Figure 2. Trends in mortality from certain cancers.
Bristol C.B. 1945—1970





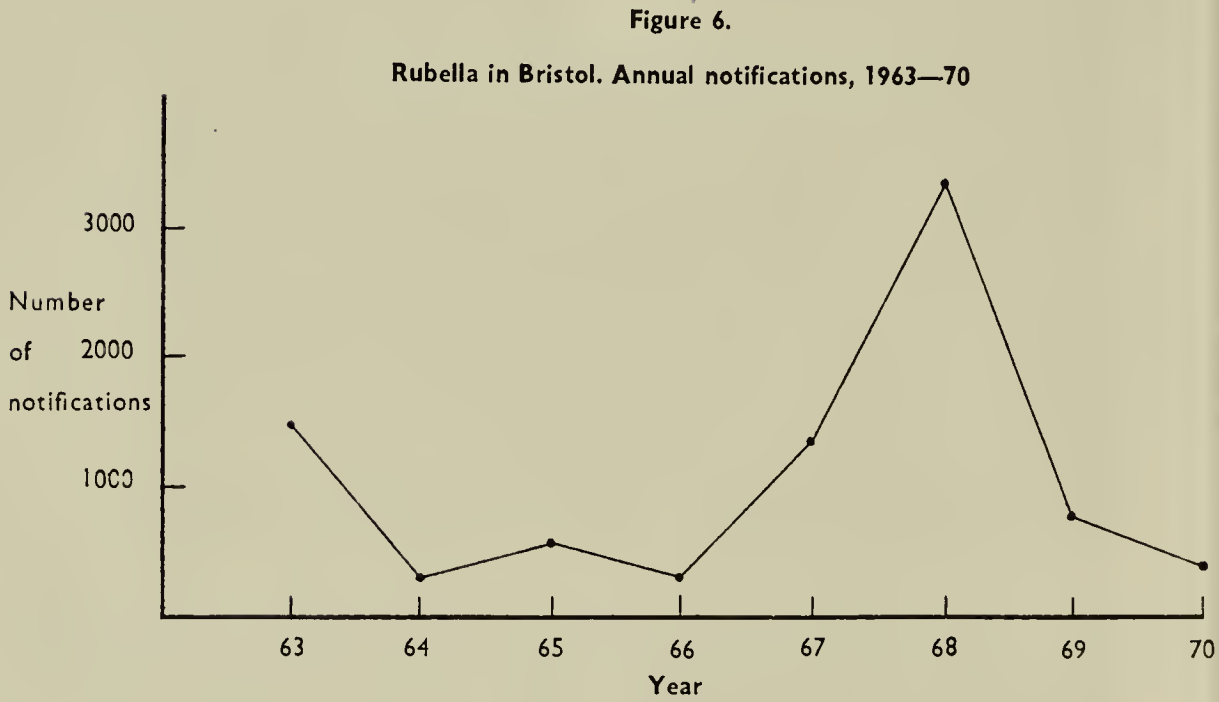
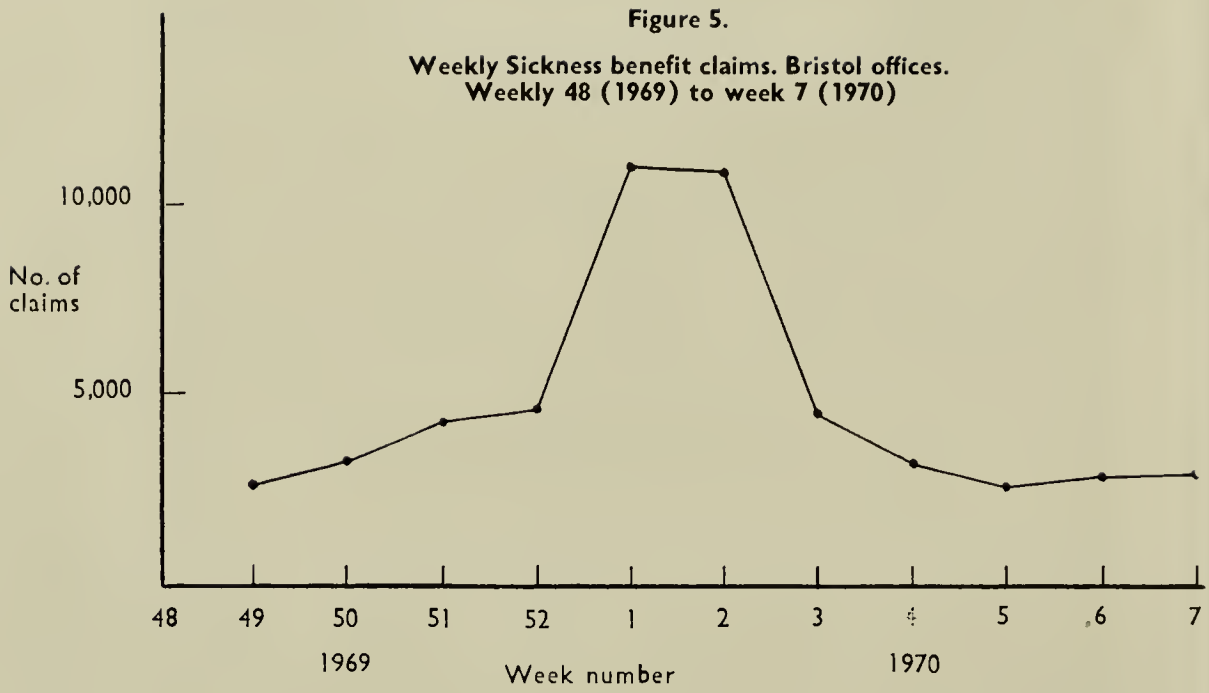
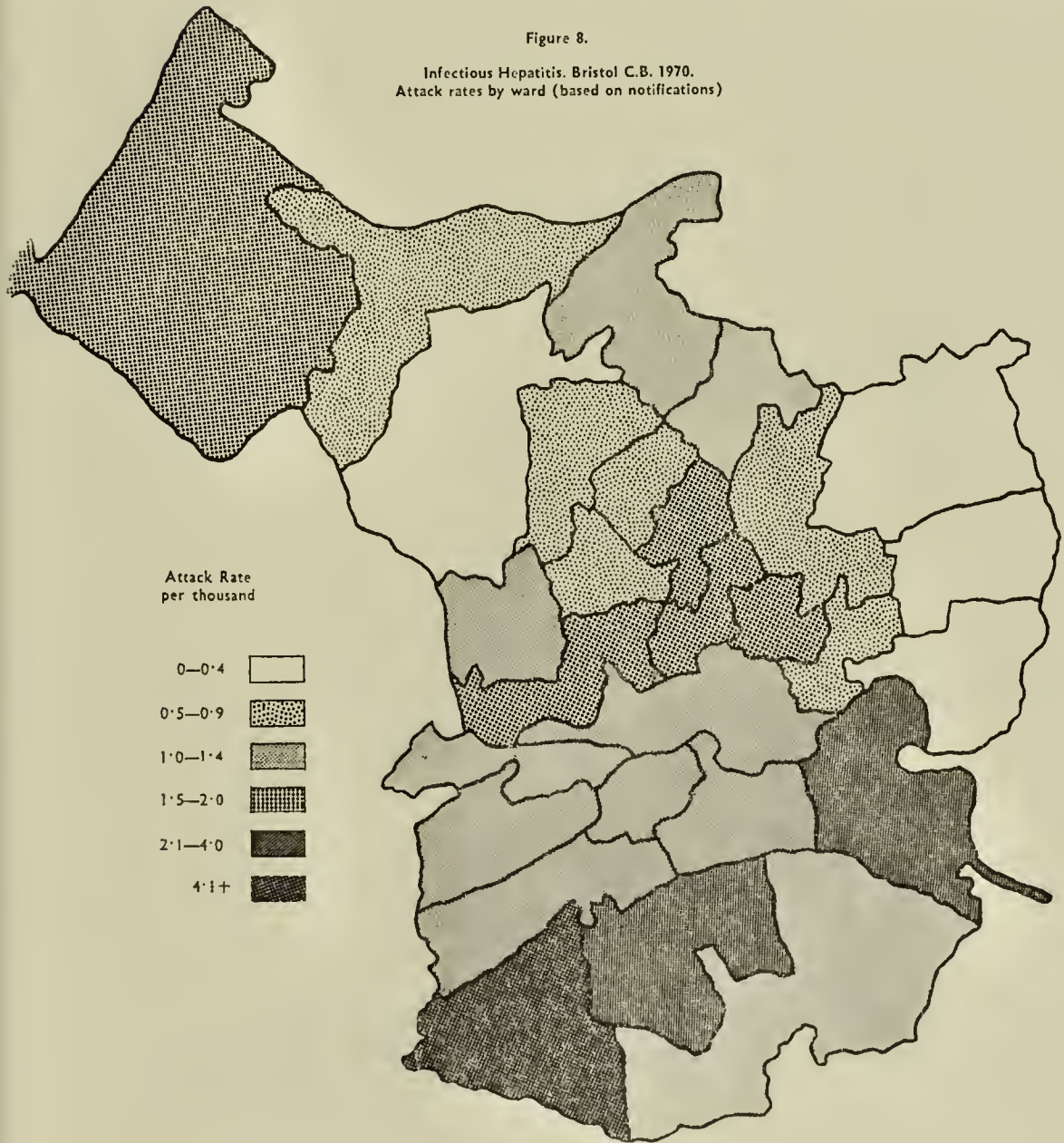


Figure 7. Bristol notifications of infectious hepatitis, 1961—70



Figure 8.

Infectious Hepatitis. Bristol C.B. 1970.
Attack rates by ward (based on notifications)



LONG ASHTON RESEARCH STATION
METEOROLOGICAL RECORDS 1970

	Means		Air Temperature (°C)		Highest	Lowest	No. of	Rainfall (")		Sunshine (Hours)	Soil Temperature at 0900 G.M.T.					
	A	B	Means	Diff. from normal				Total	Percent of Average		Most in a day	Daily Mean	Percent of Average	4"	8"	24"
January	...	7.9	1.7	4.9	+0.5	12	-6	14	4.32	101	0.63	1.46	93	3.7	4.1	5.3
February	...	7.1	1.1	4.1	-0.5	12	-4	18	2.66	107	0.37	3.76	156	3.2	3.3	5.1
March	...	7.9	1.4	4.7	-1.8	12	-4	17	1.81	81	0.31	3.60	92	3.6	4.1	5.4
April	...	10.9	3.7	7.3	-1.4	17	-2	15	2.26	100	0.50	4.07	77	7.1	7.0	8.1
May	...	17.3	8.4	12.8	+1.1	24	5	0	2.01	79	0.87	5.65	90	13.4	12.8	12.7
June	...	21.2	11.5	16.3	+1.5	28	6	0	1.86	84	0.36	8.04	115	17.9	17.3	16.5
July	...	19.2	12.2	15.7	-0.6	31	8	0	2.96	94	0.47	6.10	99	16.7	16.3	16.4*
August	...	20.2	12.1	16.1	0	28	7	0	2.53	72	0.88	5.05	86	16.2	16.0†	16.9
September	...	18.9	10.9	14.9	+0.8	25	5	0	4.17	129	1.12	4.62	101	14.2	14.4	15.7
October	...	14.4	7.4	10.9	+0.1	18	2	0	1.55	42	0.36	2.98	92	10.2	11.0	No Record
November	...	11.9	5.7	8.8	+1.7	16	-2	5	7.40	204	1.34	1.90	99	7.3	7.9	9.1*
December	...	7.2	1.8	4.5	-0.7	13	-3	18	1.36	37	0.21	1.69	113	3.8	4.5	6.4
Totals or Means	...	13.7	6.5	10.1	0	—	—	87	34.89	97	—	4.07	98	9.8	9.9	10.7

* Mean of 25 days

† Mean of 27 days

VENEREAL DISEASES

A. E. Tinkler, M.A., M.D., D.P.H.

(Consultant Venereologist South Western Regional Hospital Board)

In 1970 there was again a marked increase in the number of new patients seen at the Bristol Venereal Disease Clinics.

TABLE 1
NEW CASES—ALL CONDITIONS—BRISTOL VENEREAL DISEASE CLINICS

<i>Year</i>	<i>All Cases</i>	<i>Bristol Residents</i>
1963	2,968	2,448
1965	4,404	3,635
1967	4,154	3,463
1969	5,624	4,830
1970	7,374	5,624

SYPHILIS

Fortunately the incidence of this serious disease remains very low in the city. Twenty-four cases were seen during the year and of these only five were in the early infectious stages of the disease. Two cases of congenital syphilis were seen, both over the age of 15 years.

TABLE 2
NUMBER OF CASES OF SYPHILIS SEEN AT BRISTOL CLINICS
(excluding Avonmouth)

1965—1970

<i>Year</i>	<i>Early Syphilis</i>	<i>All Cases Late Syphilis</i>	<i>Congenital Syphilis</i>	<i>Total</i>	<i>Early Syphilis</i>	<i>Bristol Residents Late Syphilis</i>	<i>Congenital Syphilis</i>	<i>Total</i>
1965	16	8	—	24	—	8	—	8
1967	28	9	3	40	4	17	3	24
1969	14	18	3	35	12	7	1	20
1970	5	17	2	24	5	16	2	23

TABLE 3
INCIDENCE OF GONORRHOEA

GONORRHOEA

Although the annual increase in total cases of gonorrhoea in 1970 was not so great as in 1969, nevertheless the increase was significant. The incidence of this disease in the city in 1955 is shown below to emphasise the alarming trend of recent years.

<i>Year</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>
1955	236	45	281
1965	543	337	880
1967	665	388	1,053
1969	872	611	1,483
1970	983	734	1,717

BRISTOL CLINICS 1955, 1965, 1967, 1969 and 1970

The above figures include a proportion of non-Bristol residents. The incidence in Bristol residents is shown in Table 4.

TABLE 4
INCIDENCE OF GONORRHOEA—BRISTOL RESIDENTS 1969 and 1970

<i>Year</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>
1969	698	549	1,247
1970	820	603	1,423

The disproportionate increase in the number of female patients is a disturbing feature in the rising incidence of recent years, the male: female ratio being 1·3 : 1 in 1970 as compared to 5 : 1 in 1955. Another disturbing feature is the continuing rise in the proportion of patients under the age of 20 years.

TABLE 5
GONORRHOEA, MAUDLIN STREET CLINIC, BRISTOL
PERCENTAGE OF PATIENTS UNDER 20 YEARS 1965—1970

<i>Year</i>	<i>Male</i> <i>%</i>	<i>Female</i> <i>%</i>
1965	9·3	35·0
1967	10·5	39·4
1969	11·0	32·0
1970	14·0	39·5

The actual number of patients under 20 years of age treated for gonorrhoea in the Maudlin Street Clinic, Bristol is given in Table 6.

TABLE 6
GONORRHOEA, MAUDLIN STREET CLINIC, BRISTOL
AGE ANALYSIS 1968, 1969, 1970

<i>Year</i>	<i>Under 16</i>		<i>16 and 17 years</i>		<i>18 and 19 years</i>		<i>Total under 20 years</i>	
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>
1968	—	3	8	39	42	69	50	111
1969	1	16	14	74	77	99	92	189
1970	6	28	26	91	107	112	139	231

Gonococcal Ophthalmia Neonatorum

This disease, which a few decades ago accounted for about one quarter of all blindness in children, had been almost completely eradicated in this country until very recent years. In 1970 nine such cases were seen and although blindness can now be prevented by modern treatment it is nevertheless a cause for grave concern to see such cases reappearing.

INDICES OF VENEREAL DISEASE AND ILLEGITIMICY—BRISTOL COUNTY BOROUGH
1945—1970

<i>YEAR</i>	<i>SYPHILIS</i>			<i>GONORRHOEA</i>			<i>GONORRHOEA, AGED UNDER 20 (%)</i>		<i>ILLEGITIMACY RATE (per thousand live births)</i>
	<i>Early</i>	<i>Other</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	<i>Total</i>	<i>Males</i>	<i>Females</i>	
1945	—	—	260	354	176	530	—	—	85
1950	19	78	97	115	26	141	—	—	44
1955	—	—	—	—	—	—	—	—	44
1960	13*	12*	25*	—	—	675	4·5	26·1	63
1965	0*	8*	8*	543	337	880	9·3	35·0	97
1970	5*	18*	23*	820*	603*	1,423*	14·0	39·5	112

(Figures marked * refer to Bristol residents only; all other figures refer to total cases newly diagnosed in the year, whether they lived in Bristol or not.)

MATERNAL AND CHILD HEALTH SERVICE

Sarah Walker

(Principal Medical Officer—Maternal & Child Health Service)

The Bristol birth rate, which has been falling since 1965, reached a new low level of 15·1 in 1970. The number of registered live births was 6,256, 206 fewer than in 1969. This includes a slight reduction in illegitimate births—653—33 fewer than in 1969. There was, however, a disappointing rise in the mortality of babies, an infant mortality rate of 19·8, a stillbirth rate of 13·2 and a perinatal mortality rate of 24·8. This increase was limited to the neonatal period and affected each of the main groups—namely deaths due to congenital malformations, anoxia, pneumonia and immaturity.

There were no maternal deaths directly due to pregnancy or childbirth, but there were two associated deaths. One was an expectant mother aged 39 years having her fourth baby, who died at the 20th week of pregnancy undelivered, as a result of a brain tumour. The other expectant mother was a primipara aged 21 years, a diabetic, who died of acute pyelonephritis and was 5-6 weeks pregnant at the time of her death.

The number of Bristol babies born in hospital, 93% of the total, is the highest proportion of hospital deliveries yet reached in the City. Planned early discharge of mother and baby to the care of the general practitioner and domiciliary midwife shows a corresponding increase:—

<i>1st—3rd day</i>	<i>4th—5th day</i>	<i>6th—8th day</i>
1,145	773	324
(990)	(759)	(337)

(corresponding figures for 1969 in brackets)

N.B. These figures do not include the 82 mothers confined in the general practitioner short-stay unit at the Bristol Maternity Hospital who return home within a few hours of confinement.

The majority of expectant mothers in the City attend the Health Clinics/Centres, receiving antenatal care from their general practitioners working in close association with the domiciliary midwives. Although the number of expectant mothers seeking care earlier in pregnancy shows a marked increase, there is still some way to go to achieve the ideal of all women attending for care as soon as they become aware that they may be pregnant. The following Table refers to expectant mothers who attended the Department's Health Clinics/Centres in 1970:—

Stage of pregnancy at first antenatal attendance:—

<i>Time of 1st attendance</i>	<i>No. of Expectant Mothers</i>	<i>Percentage Attendance</i>
1—11 weeks	1,759	32·3%
12—15 weeks	1,737	31·9%
16—19 weeks	889	16·3%
20—23 weeks	480	8·8%
24—27 weeks	275	5%
28th week or later	304	5·6%

The preparation for parenthood classes, intended for parents expecting their first baby, continue to be provided in all the main Health Clinics/Centres. During the year 1,515 expectant mothers attended these classes, representing 54% of all primiparae, this does not include those expectant mothers who attended the classes held at the Bristol Maternity and at Southmead Hospitals. A new maternity film "The Child", produced in Sweden, was purchased by the Department and has proved to be an excellent teaching film for use in the classes.

In July 1970, the Peel Report on "Domiciliary Midwifery and Maternity Bed Needs" was published. The Report recommends unification of the maternity services as the ultimate goal, sufficient facilities for 100% hospital deliveries, and that maternity care should be provided by consultant obstetricians, general practitioners and midwives working as teams. This report is being considered by the Local Authority Associations, the professional interests and the other health service organisations.

Also published during the year was the confidential enquiry into Postneonatal Deaths (1964-66) which took place in three areas of the Country, one of which was Bristol.

Family Planning advice continued to be provided by the Department and by the Family Planning Association, in a number of Health Clinics/Centres. During 1970 the following clients were dealt with by the Health Department's service:—

<i>New Clients</i>	<i>Old Clients' revisits</i>
1,180	3,148

The number of cervical smear tests carried out in the Health Clinics/Centres during the year were 5,601. In addition 1,290 employees in 17 local firms had tests carried out during working hours in the firms' premises. These tests were taken by a doctor from our staff. Of the total women seen, one had cancer of the cervix, for which an immediate hysterectomy was carried out, and nine had cone biopsy for carcinoma-in-situ. Much health education is needed to encourage women to have this test taken at regular intervals throughout adult life.

A letter on the subject of Battered Babies was sent by the Department of Health and Social Security to the Medical Officers of Health and the Children's Officers of all Local Authorities in the Country, asking for them to report on the local arrangements for dealing with this problem. Local meetings were held in Bristol, at which representatives of interested professions and organisations attended. Subsequently the Town Clerk and Chief Executive Officer wrote to all those concerned setting out the channels of communication which are available to ensure speedy contact and immediate attention to any case, on the part of the Local Authority.

The Bristol Marriage and Family Guidance Council, who receive a financial grant from the City Council, opened a session at the Mary Hennessy Clinic, Hartcliffe, for the convenience of clients living in the South of the City, who would otherwise have to travel to the central office in the City Centre.

Plans for the replacement of Knowle Park Day Nursery, a war-time prefabricated building, by a new purpose-built nursery at Ruthven Road, Knowle, were approved and the new nursery should be ready for occupation in 1971.

The number of playgroups continues to increase and by the end of 1970 there were 136 registered in the City. The Bristol Branch of the Playgroups Association, which is very active in this field, receives a grant from the Education Committee to help non-profit making playgroups with purchase of equipment. The courses arranged by the Education Department for playgroup leaders and helpers make a valuable contribution and the response has been excellent.

The following reports have been contributed by members of the Maternal and Child Health Service Staff:—

DOMICILIARY MIDWIFERY SERVICE

Miss W. A. Outram, Non-medical Supervisor of Midwives

At the beginning of the 1970's the Domiciliary Midwifery Service continues to play a vital part in the care of mothers and babies. The gradual changes in maternity care which have taken place over previous years have evolved into a pattern whereby the domiciliary midwives are concerned in the care of almost every expectant mother in the City. This responsibility is linked with the overall care being given by the general practitioner who is working from one of the Health Centres, Clinics, or own surgery. Similarly there is liaison with the hospitals and consultant obstetricians who request home visits. The midwives give any treatment which is required because of the pregnancy, as well as advice and encouragement to attend General Practitioner or Consultant Clinic. There is the opportunity for all mothers-to-be, to participate in the preparation for parenthood classes given in all the clinics and health centres. These classes are given regularly and continuously by midwives and health visitors.

The majority of births take place in hospital. In 1970, 5,978 Bristol mothers had their confinement in one of the maternity hospitals, but 1,145 came home within two or three days following the delivery for care by the midwife and general practitioner. In addition 1,097 mothers came home before the 9th day for continued care by the midwife for 28 days. The arrangement for hospital confinement and early discharge is planned as early as possible in the ante-natal period. This planning entails at least three home visits by the midwife as well as administrative organisation and close co-operation with the hospitals.

The number of mothers having a home confinement was 443. These are mothers wishing to remain at home, since there are hospital beds available for all those who are anxious to have the period of confinement within a maternity unit, irrespective of obstetric, medical or social needs.

There are some mothers who, although not averse to going into hospital are anxious to have their general practitioner and midwife giving complete care, and also are disinclined to leave their home and family for any length of time. For such patients the Short-Stay Delivery Unit at the Bristol Maternity Hospital gives ideal conditions. This arrangement is very popular with patients, husbands, midwives and those general practitioners who participate in the scheme. Eighty-two births took place in the Unit, the midwife accompanying the patient into hospital and remaining with her throughout labour, sharing the delivery with the general practitioner and later escorting mother and baby back to home where all requisite care is continued. The success of the Unit is in part due to the co-operation of the hospital staff, consultants, administrative and

nursing staff, all of whom are unfailingly helpful. This attitude and welcoming atmosphere are greatly appreciated; such a sharing of facilities enables the domiciliary and hospital service to merge as one.

Pupil midwives from the Bristol Maternity Hospital and Southmead Hospital spend the last three months of training away from the hospital environment living and working within an area of the City. These nurses and potential midwives experience for the first time the care which is available within the community. They observe and share in the work of the trained midwife, home visiting, ante-natal, post-natal and baby care; clinic work, teaching programmes and liaison with other members of the health team. The pupils have days with Health Visitors, Public Health Inspectors and at day nurseries, to enable them to see other aspects of Public Health work as well as their own speciality. The observation visits are additional to a comprehensive programme of lectures.

In December 1970 our last pupil midwives who undertook the full six months second-period midwifery training with the Domiciliary Service, qualified as midwives. The City commenced giving the six months' training in 1959 and has since had 113 pupils, 112 having qualified as midwives, some of whom having then remained on the staff. It was with regret that we accepted the necessity for discontinuing our own training school. With the present midwifery training schedule, it is possible to give three pupil midwives attached to a hospital training school a district place, as against only one pupil midwife who is accepted for the complete six months second-period training. The Central Midwives Board emphasise the importance of domiciliary experience.

Student nurses who are taking the obstetric course in their General Nurse Training, come at regular intervals to spend a day with the district midwife, observing her routine clinical care, role as a team worker and as a health teacher.

All the midwives were involved in the National Birth Survey which took place in March and we look forward to learning from the information gained by such a vast exercise. We are more and more aware of the importance of efficient ante-natal care, of the need for minimising all risk to mothers and babies at the time of delivery, and then for skilled help to be continued during the first four weeks of the post-natal period and neonatal life. By a close working relationship with general practitioners and a very good liaison with the hospitals, the domiciliary midwifery service enables Bristol mothers and babies to have the optimum of care.

SUB-FERTILITY CLINIC

Dr. Rosalind Hinton, Medical Officer of the Women's Clinic

	1970	1969
New patients	252	310
Old patient attendances	1,052	1,276
Pregnancies reported	113	86
Marital problems	9	35
Waiting-list (in Feb. '71)	50	

Staff changes have made the work of the Clinic a little disjointed this year. Everybody was extremely sad to lose Dr. Boxall after her many years of enthusiastic work. I myself owe her a great debt of gratitude for the painstaking way in which she introduced me to the working of the Clinic. Mr. Slater left us on being appointed to his consultant post in Yeovil; in his place we welcome Mr. Foulds; and Dr. Hindley is now doing one regular clinic, so we should be able to function for four sessions weekly.

Dr. Christopher Morris has published the work on Genital Tract Tuberculosis with which Dr. Boxall helped him; he concluded that the most reliable method of detecting tuberculous endometritis was by guinea-pig inoculation. One new case of endometrial tuberculosis was seen during the year.

We are now running the service in conjunction with full Follicle Stimulating Hormone and Luteinising Hormone therapy for selected cases supervised by Mr. Alan Byles at the Bristol General Hospital; it is hoped to expand this time-consuming and expensive service to cover the whole region.

The fact that there appear to have been fewer marital problems seen at the Clinic this year reflects, I think, rather a difference in criteria applied than an actual change. It is common-place that patients who have difficulty with fertility also have problems in the sexual side of marriage, with which they need help.

We continue to use Clomiphene in selected patients with variable results. We have had some success with the simple use of pre-menstrual progestogens in those patients who need an endo-

metrial stimulus. We hope to do some work to determine the success rate of this therapy. Patients who find their sub-fertility hardest to accept are often those in whom all investigations are "normal". For those cases where the post-coital test is negative, it is possible that some may be producing antibodies to their husbands' spermatozoa and this is another line about which we would like to know more.

Dr. George Foss, Medical Officer of the Men's Clinic

In the year ending February 12th 1971, 134 new patients have been seen in the Male Sub-Fertility Clinic. The total attendances are down this year to 303, owing to my illness and there were only 37 sessions.

Fourteen patients were virtually sterile, including three patients with Klinefelter's syndrome. In addition to the usual seminal studies, testicular biopsies were carried out on 18 patients and as a result of this 1 patient was sent to Mr. Hanley and 3 patients to Mr. Donald Young for further exploratory surgery with a repair of varicoceles or vasovasostomy. 48 patients were treated with Clomiphene and a paper is in the course of preparation of a controlled blind trial in conjunction with Mr. Tindall of Cardiff. 5 patients' wives, whose husbands were treated with Clomiphene, have become pregnant. A further number of patients have been treated with Mesterolone, which has been a rather disappointing new androgen.

The Child under five with Abnormalities and the Child at high risk of having congenital abnormalities

Dr. Mary Gibson, Deputy Principal Medical Officer, Maternal and Child Health Service

In the early part of 1970, Miss Hocking, on retiring from health visiting, joined Dr. Faulkner and myself for two sessions each week to help in the organisation and running of the on-going abnormality register. Her coming has greatly helped the speed and efficiency of every aspect of this work, which continues to be primarily concerned with ensuring care of the child and its family in the home and planning for its future education, training and special needs.

This often entails admission to day nursery or nursery school and on the whole we have been able to arrange this type of help for every child who needs it. The only area in which we no longer are able to get fairly quick admission for these children is at the Bush Training Centre Nursery and Stratton Street, where the number of children who would benefit from help has outstripped the number of places available.

Children considered to be at "High Risk" of having a congenital disability have been incorporated in the Register for some time. For the past four years the high risk conditions on the Bristol Register have been reduced to five:—

- 1. Severe perinatal anoxia, including Class C–D asphyxia or Apgar Score of 4 or under.
- 2. Perinatal cerebral irritation from trauma, abnormal blood chemistry etc.
- 3. Maternal contact with rubella in early pregnancy.
- 4. Severe rhesus incompatibility with serum bilirubin levels of 18ml% or more.
- 5. Prematures or dysmatures of less than 4 lbs. birth weight.

From 1.1.70 to 31.12.70, 108 children in these categories were placed on the Register. By 28.2.70, 19 of these were already noted as having abnormalities.

Spastic Paralysis	3 confirmed and 1 under observation
Microcephaly—with so far minimal lag in development	4
Children with more than four months delay in achieving milestones of development	5
Facial Paralysis	1
Ptosis	1
Nystagmus	1 (degree of possible visual defect not yet certain—this child also noted above as retarded)
Blind	1
Squint	2
Convulsions	1
Nerve Deafness	0
Congenital Heart Disease	1 (this child is also noted above as being microcephalic)

The following table shows the incidence of some of the more serious congenital abnormalities in the central nervous, alimentary, skeletal and chromosomal fields for the eight years that the Bristol Register has been kept.

	1963	1964	1965	1966	1967	1968	1969	1970
Anencephalic	17	14	20	15	9	13	11	9
Meningomyelocele (overt)	16	32	22	32	26	31	23	25
Hare Lip	9	10	6	7	11	6	5	5
Cleft Palate	7	14	9	5	14	9	3	5
Reduction deformity of limbs	1	4	8	2	6	—	1	4
Talipes	24	34	36	28	56	47	43	38
Mongol	10	16	14	7	8	14	7	7

In addition, the incidence of congenital heart disease has remained fairly constantly between 10 and 12 per 1,000 live and stillbirths.

Over the nine years since congenital malformations have been notifiable to the Medical Officer of Health on the birth notification form, there has been a gradual steady fall in the number of cases so notified, although during this period the total number of all congenital abnormalities on the Bristol Register has not shown a corresponding decline.

From the table given above it will be seen that there has been over the eight years a slight fall in the number of more serious abnormalities recorded on the register but this is not paralleled by the more trivial conditions.

The figure given for children at high risk and for those with abnormalities of C.N.S. alimentary, skeletal and chromosomal fields for 1970 will eventually be higher than those given when hospital reports for the last three months of 1970 are available.

SPECIAL FAMILIES

Dr. C. D. Hopkins, Senior Departmental Medical Officer

During the year 182 new cases were added to and 170 were suspended from the Special Families Register resulting in a total of 1,174 Special Families, showing an increase of 12 over last year's figure of 1,162.

These include families requiring health visiting on account of possible neglect and ill-treatment, and also families in which a child or children are failing to thrive on account of social reasons rather than because of ill health.

The three Special Families Health Visitors, with the aid of the four Health Assistants, carried 276 of these families on their case load, and concentrate mainly on the early preventive work. In addition, they supervised some families where the more serious health factors are operating. Commenting on some of the more intelligent children of these families they say, "The needs of the deprived pre-school child can often be met by day nursery, nursery school, or playgroup, where the education of the child is supplemented by the education of the mother in the home by the Health Visitor. However, during school years, a child arriving at school late, and perhaps unkempt and dirty, may suffer ostracism by other children, and, if intelligent, will often find himself unable to progress academically and may then express himself in delinquency or some other undesirable manner. Special boarding school facilities within the City operating on a five-day basis, with the child home for the weekend would be a valuable preventive measure in catering for this type of child".

Investigations into cases of possible neglect or ill-treatment, including the "battered baby", average 4.5 per week, mostly of a minor degree. However, during the year there were 27 instances of a more severe nature where joint action was taken in conjunction with the Children's Department, and in 13 instances the police were involved. Suspected battered baby cases are referred either to the Health Department or to the Children's Department but in either case the investigations are undertaken jointly, the Health Department representative acting as medical adviser to the Children's Department representative. The final decision as to whether further action is required, and what form this should take is a matter for the Children's Department representative. In such cases there is need for a hospital consultant or his deputy to be readily available for advice or conference while investigations are being undertaken. By making early reference and co-operating generally, family doctors and hospital consultants can, and do, render great assistance.

WELFARE OF UNMARRIED MOTHERS

Mrs. W. Munday, Social Worker

There were 893 clients who were referred for help and advice during the year, 57 more than in 1969. A number of these are cohabitees who seek help when the association breaks up and the couples have parted.

The number of girls having first babies was 500, and 162 having second babies. There was again an increase in the number of girls under the age of 16 years who come to our attention, 28 in 1970 compared with 24 in 1969.

There was little or no change in the number of pregnancies terminated amongst those referred to us—a total of 23 compared with 22 in 1969.

Under our agency arrangement, thirty girls were admitted into St. John's Mother and Baby Home during the year. We appreciate the care and kindness shown to the girls by the staff of the Home.

The number of new cases dealt with in respect of payment by the putative father to the mother for maintenance of her child was 206, such payment being by affiliation orders or by voluntary agreements. There was an increase of 22 in the number of affiliation cases before the Court during the year, but there is still a number outstanding having been adjourned for some reason or other. Quite a few of the adjourned cases have been the result of the putative fathers being late in seeking legal advice.

In 1970, 86 adoptions were completed, but this still left approximately 41 cases where the final papers had not been completed. The trend in recent years shows the willingness of the unmarried mother to keep her child. This fact is mainly attributed to the increase in the monetary benefits made available by the Department of Social Security and the change in public attitude towards illegitimacy.

CLINIC ATTENDANCES

				New Patients	Total Attendances
a)	<i>Antenatal</i>				
(i)	Medical officer sessions	...	...	184	1,435
(ii)	General practitioner sessions	...	...	4,271	35,010
(iii)	Consultant sessions	...	...	2,358	7,544
(iv)	Midwives sessions	...	...	120	1,050
b)	<i>Postnatal (including birth control)</i>				
	Medical Officers and G.P's sessions	...	...	4,650	7,842
c)	<i>Child Health Clinics</i>				
(i)	Total number of infants under one year	...		8,434	
	Total attendances of infants under one year	...		45,699	
(ii)	Total number of children aged 1-5 years	...		10,857	
	Total attendances of children aged 1-5 years	...		34,409	
d)	<i>Parentcraft classes</i>				
	Number of expectant mothers who attended classes	...	...	...	1,515
	Total number of attendances	...	...	...	6,966
e)	<i>Special diagnostic clinic</i>				
(i)	New patients	...	...	...	164
(ii)	Attendances	...	...	...	306
	<i>Health Visiting</i>				
	Home visits (i) Primary (to new babies)	...	...	...	6,487
	(ii) Infants under 1 year (excluding (i) above)	...	...	...	18,848
	(iii) Children 1-5 years	...	...	...	45,763
	<i>Recuperative Convalescence</i>				
	Section 22 N.H.S. Act—Mothers and Young Children				
	Mothers accompanied by children	...	...	...	2
	Unaccompanied children	...	...	...	—

DENTAL HEALTH OF MOTHERS AND PRE-SCHOOL CHILDREN

Mr. J. McCaig, Chief Dental Officer reports:—

The number of patients treated by the Service remains almost constant, 910 pre-school children in 1970 as against 937 in 1969; expectant and nursing mothers 392 in 1970 and 444 in 1969. These numbers are a fraction of the potential patients since there are over 12,000 expectant and nursing mothers and 15,000 pre-school children per year. It is difficult to say therefore, if the dental health of these groups is improving when so few are seen.

Dental health is determined by the amount of disease suffered but is influenced by treatment sought and the kind of treatment received. Expectant and nursing mothers are referred to the dentist by the doctors in the clinics, but few mothers accept the need for advice. Pre-school children are usually brought by their mothers when their teeth begin to pain and often when it is too late for any remedial treatment. Tooth decay develops at different rates in different people and treatment is simple for both patient and dentist if the decay process is discovered in its early stages. Young children therefore should be seen by the dentist regularly and often, at least every three months, to detect early decay, at which stage the disease can be arrested and the teeth preserved. While the majority of mothers no doubt have their children's interests at heart, the small number of mothers seeking advice seems to indicate that dental health education has failed to impress them of the importance of this regular three monthly visit to the dentist for a check up.

Dietary control is a negative approach and has not been a great success. Young children's teeth can be destroyed almost as soon as they erupt, because of the uses and abuses of sweetened milk, dummies or comforters filled with fruit juice or jam. Teeth are most vulnerable when they erupt and the tooth enamel may be destroyed by these abuses, infection of the pulp may follow, with the possibility of the tooth having to be extracted. Extraction is preferable to allowing infection to persist, until the permanent teeth arrive, although removing teeth at a young age may cause psychological disturbance. Once these bad eating habits have been established and a certain pattern of bacterial growth allowed to develop in the mouth and establish itself, then the permanent teeth are likely to be destroyed in the same way but not as dramatic, again making extractions necessary. If eating habits are changed and improved at any stage in the destruction process there is some hope of recovery. The destruction cannot be undone, but further damage can be prevented by improved oral hygiene, which eventually has a beneficial effect.

Fluoridation of the public water supply is safe and is the most effective method of control of dental decay and improved oral hygiene. Studies show that fluoridation does not merely postpone the onset of caries but improvements last throughout life.

The table at the end of this section shows the work carried out by the School Dental Officers for the Maternal and Child Health Service.

SICKLE CELL ANAEMIA

SCREENING TEST

People of African or West Indian descent may carry in their blood a type of haemoglobin which may cause an illness called Sickie Cell anaemia or trait. It occurs in between 10 and 20% of this group but may be so mild that it never causes any illness and may be only detected by blood tests. Nevertheless people with this tendency may have the illness precipitated by certain stresses such as general anaesthesia.

Although the risks of anaesthesia are now small it is best to reduce them still further by being aware of any person with the sickle cell tendency. In the day-to-day work of the local authority dental department, short dental general anaesthetics are given frequently, particularly for treatment of children when local anaesthesia would not be suitable.

A quick and easy blood test is now available for detecting people with the sickle cell tendency and during October the Health Department started offering the test to children referred by the local authority dentists. Before the end of the year 23 children had had the test and one had a positive result.

Children who have the tendency are sent to the Dental Hospital for their general anaesthetic and their family doctor is informed. The mild forms of the disease do not need any specific treatment but it is valuable for the doctor to know if that condition is there if treatment is needed for other conditions.

DEPARTMENT OF HEALTH AND SOCIAL SECURITY

NATIONAL HEALTH SERVICE ACT 1946

Local Authority Dental Services for Expectant and Nursing Mothers and
children under 5 years as at December 1970

Part A—Attendances and Treatment

	<i>Children 0—4 (incl.)</i>	<i>Expectant and Nursing Mothers</i>
Number of visits for treatment during year		
First visit	910	392
Subsequent visits	858	845
Total visits	1,768	1,237
Number of additional courses of treatment other than the first course commenced during year ...	52	19
Treatment provided during the year—number of fillings	1,308	861
Teeth filled	1,184	799
Teeth extracted	948	420
General anaesthetics given	339	44
Emergency visits by patients	81	36
Patients X-Rayed	6	28
Patients treated by scaling and/or removal of stains from the teeth (Prophylaxis)	53	201
Teeth otherwise conserved	307	
Teeth root filled		—
Inlays		—
Crowns		—
Number of courses of treatment completed during the year	469	216

Part B—Prosthetics

Patients supplied with F.U. or F.L. (first time) ...	7
Patients supplied with other dentures	28
Number of dentures supplied	47

Part C—Anaesthetics

General anaesthetics administered by dental officers ...	—
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Part D—Inspections

	<i>Children 0—4 (incl.)</i>	<i>Expectant and Nursing Mothers</i>
Number of patients given first inspections during year	A. 1,419	D. 514
Number of patients in A and D above who required treatment	B. 927	E. 443
Number of patients in B and E above who were offered treatment	C. 917	F. 429

Part E—Sessions

Number of dental officer sessions (i.e. equivalent complete half days) devoted to maternity and child welfare patients:	For treatment ...	G. 469
	For health education ...	H. —

This form should be completed and three copies sent to the Department of Health and Social Security (Stats. Division Room 414) 14 Russell Square, London, WC1, or in the case of the Welsh Authorities to the Welsh Office no later than 31 January 1971.

NURSING SERVICES REPORT

Margaretta Marks Jones

(Chief Nursing Officer)

A number of reports were issued during the year directly aimed at nursing and nurses. As far as domiciliary nursing services are concerned, 1970 will be remembered as the year when the report on the Management Structure in Local Authority Nursing Services was published. This was the first occasion that consideration was given at the same time to the three branches of the service—domiciliary midwifery, home nursing and health visiting. Following the publication of the report, sometimes known as 'Salmon on the District' a circular was issued in September urging all local authorities to proceed with the recommendations of the report. The main recommendations of the working party saw a need for three levels of nursing management—top, middle and firstline, with a Chief Nursing Officer to co-ordinate and direct health visiting, home nursing and domiciliary midwifery service in the area. In this city the department is so organised that the Chief Nursing Officer's job has always been regarded as a key position in regard to the administration of the nursing services, and there is in effect a line management structure. It will be interesting to learn in due course how the present structure compares with the pilot model schemes which are set up by the Department of Health and Social Security where these recommendations can be tested out.

HEALTH VISITING SERVICE

For most district health visitors the pattern of work during 1970 was much the same as in the previous year, although there has been a notable increase in the number of visits made by them to elderly persons. However a group of district health visitors who are based at Southmead Health Centre and covering part of the Southmead, Henbury and Horfield areas, have changed to a new pattern of work.

In October this group of health visitors became associated with the general practitioners working from the health centre, so that instead of visiting in specific geographical areas, they now visit families who are registered with the general practitioners.

The concept of this pattern of work is to develop a community health team so that the health visitors, district nurses, midwives and general practitioners work more closely together. The aim of this team is to improve the service to families and other persons and at the same time give greater satisfaction to the personnel working within the team.

Traditionally the health visitor has worked almost entirely with mothers and children up to the age of school leaving. Associating health visitors with general practitioners will extend her work to a much wider field and bring her into contact with clients of other age groups.

It is known that there are vulnerable groups who would benefit from the care of health visitors, for example the bereaved, handicapped persons, patients discharged from hospital needing support but not active treatment, those with emotional problems and elderly persons.

Horfield Health Centre opened in December and the work of health visitors based there will be associated with the general practitioners working from the health centre from February 1971. It is inevitable that there are some difficulties in reorganising the service; however the aim is to prepare the staff adequately to meet the changes and with the good will of all those concerned the outcome will be a success.

RECRUITMENT

It is encouraging to report that at the end of the year there are four additional members of staff employed, as compared to the previous year. The situation should improve still further as during the current year, fifteen students are sponsored by the department in comparison to ten in the previous year. Four health visitors who completed their term of contract in September joined the permanent staff and six came from other authorities. There were nine resignations from full-time health visiting staff, and one retirement. All those who resigned did so for personal and domestic reasons.

THE SICK AND AGED

During 1970 the total case load of each of the special health visitors and their assistants was approximately 1,000 persons, the working case load usually being about half of this number.

An increasing number of elderly persons are also being visited by district health visitors but

almost all of them had initially been visited by the specialist health visitors and later, when appropriate, the supervision is undertaken by the district health visitor. This enables the special health visitor to deal with crises situations and other time-consuming problems. Almost 900 persons are being visited by district health visitors and this is reflected in the marked increase in the number of visits made during the year. This trend will certainly increase if more health visitors have closer associations with general practitioners.

For the third consecutive year students from Bristol Royal Infirmary arranged a party in the New Year for elderly persons known to specialist health visitors, the party being held in the assembly hall of the teaching unit.

The following is a summary of cases visited for the first time in the current year by the specialist health visitors and the health assistants.

CASES VISITED FOR THE FIRST TIME IN CURRENT YEAR

	Males	Females
1. 65 years of age and over	1,002	2,651
2. Under 65 years of age	90	176
3. Number in '1' visited at special request ...		1,159
4. Mentally disordered		12
5. Number in '4' visited at special request of G.P. or hospital		19
6. Persons discharged from hospital other than mental hospitals		420
7. Number in '6' visited at special request of G.P. or hospital		400
Total number of households visited during year		12,560

NIGHT SITTER SERVICE

This service is designed to give relief in the night care of chronic sick patients who are suffering from a terminal illness and who are either living alone, or whose relations' health is becoming impaired through anxiety and loss of sleep. The specialist health visitors investigate and assess the need and there is the closest possible link between the district nurses and home helps who in many instances cope during the day. Recruitment to this service is difficult but there is an improvement since approval was given to place them on the same salary scale as that of nursing assistants. Hours worked by night sitters during the year totalled 66,632.

PREMATURE BABIES

The number of premature babies in the care of health visitors in 1970 was much the same as in 1969. During the year 508 babies were visited of whom 426 were in the Bristol area.

REFRESHER COURSE AND IN-SERVICE TRAINING

Two health visitors attended a six weeks course for Fieldwork Instructors arranged by the Department of Public Health, University of Bristol. One Divisional Nursing Officer and a Sister-in-Charge Health Centre attended Management Appreciation Courses arranged at Filton College. Four Health Visitors attended refresher courses arranged by the Royal College of Nursing and two other Health Visitors attended a three-day course on 'Speaking with Confidence!' A Study day on Health Centres and Health Centre Management was arranged for those members of staff who may be interested in the future in applying for posts as Sisters-in-Charge. This proved to be a most valuable day and was much appreciated by those present. Many other members of staff were given opportunities to attend study days and conferences.

VISITORS TO THE DEPARTMENT

A total of 265 student and pupil nurses accompanied health visitors and district nurses for experience in the domiciliary field. In addition the following professional students were helped—12 Diploma Public Health postgraduate students, 46 pupil midwives, 14 midwives—refresher course, 3 post graduate (University) nursing students, 31 student district nurses and 8 welfare assistants.

ANCILLARY NURSING SERVICES

For routine clinic/school health duties, health visitors are assisted by State Registered and State Enrolled nurses who are employed on sessional basis. Other ancillary workers include clinic helpers

and clinic assistants. Welfare assistants are employed to assist the specialist health visitors. There is now a need for district health visitors in selected areas to be given the opportunity to delegate some of their routine visits and duties in carefully selected families as well as carrying out tasks which do not require their own special skills and training. To avoid another grade in the domiciliary service it was recommended and approved that Welfare Assistants be redesignated Health Assistants and an additional 6 posts were created. The aim is in the first instance to base these members of staff to the larger groups of health visitors based at Health Centres/Clinics.

HOME NURSING SERVICE

Total visits paid by Nursing Staff	...	...	...	...	261,479
Patients treated in Doctors' Surgeries	...	...	...	...	5,344
New cases referred during year	...	...	...	...	4,728

The work covered by the district nurses continues to be at a consistent level in the variety of cases attended, with a predominance among the elderly. This has necessitated much time being spent on referrals to other workers. Many needy folk have been referred to the Supplementary Benefits Commission for financial and other help—assistance with heating, diet supplements, clothing and bedding. Similarly liaison with the Voluntary Services has helped people with difficulties and needs not always covered by the Statutory Services. Terminal cases of cancer have received help from Marie Curie Memorial Foundation and the National Society for Cancer Relief.

Many patients are still in need of rehabilitation in their own homes. This is a time-consuming task which will need further consideration in the future. Attachments to General Practitioners continue on a highly satisfactory basis—with mutual satisfaction all round.

No difficulties are experienced in recruitment of staff for training and service. More State Enrolled Nurses and Nursing Assistants have been appointed, working with the State Registered Nurses. The present ratio of staff is S.R.N. 67%, S.E.N. 25% Nursing Assistants 8%. It is anticipated this trend towards greater use of State Enrolled Nurses and Nursing Assistants will continue, the levels of nursing becoming more clearly defined. State Registered Nurses undertake the highly skilled nursing care, accepting full responsibility for general practitioner attachment, correct assessment of patients' needs and initiating the appropriate action as well as assisting with the practical teaching of students and pupils. The State Enrolled Nurses undertake skilled nursing care, rehabilitation observation and reporting, as well as finding help for patients and families. The nursing assistant grade relieve the trained staff by undertaking routine toilet care and hygiene of elderly and disabled patients. This service is much appreciated and very popular with the patients. It is likely there will be an increase in the number of patients who need this kind of help and may be without relatives to assist them. Visits paid by Nursing Assistants total 10,624.

At the beginning of the year the rota of night telephone nurses ceased and this duty was taken over by the Ambulance Control Officers. Detailed duty rosters prepared daily and careful guide lines have ensured a smooth running of this operation. A total of 744 messages were taken during evenings, weekends and public holidays. Requests for late night calls continue at a fairly constant rate. The two night Sisters visiting on alternate nights have paid 1,929 visits during the year. Reorganisation of the Nursing Staff into nursing teams meeting at the Clinics, Health Centres and doctors' surgeries to discuss and plan their work has meant better communication all round. This is particularly beneficial to new staff and students. The staff are no longer working in isolation but are able to share problems and work. More liaison is possible with the Health Visitors too. Off duty has also been brought into line with other public health nursing staff, and the nurses work a five-day week with two weekends off and one in three on.

Divisional Meetings have been arranged during the year to discuss problems and for teaching purposes. This provides a valuable link between field workers and administrators.

District training has been carried out almost continuously throughout the year both for State Registered Nurses and State Enrolled Nurses. In June the Department of Health and Social Security extended their arrangements for District Training to include State Enrolled Nurses as part of the arrangement for the award of a National Certificate. In Bristol our first course for the National Certificate commenced in October with Pupils and State Enrolled Nurses.

We continue to train for County areas as well as our own staff. During the year students have come from Somerset, Wiltshire, Pembrokeshire, Breconshire and Bath. We also provide a theoretical lecture block for 'In-Service' students who are remaining in their own county areas for the practical work. A great deal of time and teaching is spent by the Superintendent and Divisional Nursing Officers in preparing and training students.

S.R.N's	Bristol	13	S.E.N's	Bristol	6
Other Local Authorities		5	Pupils Manor Park Hospital		19
In-Service		13			

HOME HELP SERVICE

M. R. Epplestone, S.R.N., S.C.M., H.V.

(County Borough Organiser)

1970 has been the most disastrous year in the history of the Home Help Service, Three strikes occurred, one of which, the industrial dispute, caused the Home Helps themselves to strike. This unprecedented and unexpected turn of events caused a great deal of confusion in the service and had far-reaching results.

The 'bus strike made it extremely difficult for Home Helps to get to and from their cases, but thanks to the organisers who ferried as many as possible to the urgent cases and the sheer determination and will-power of the Home Helps themselves, no daily case was left unattended. Some Home Helps walked as much as five miles to and from their cases, such was their devotion to their patients.

The electricity strike caused a lot of hardship to the elderly and Home Helps especially those who lived in the fourteen and fifteen storey flats. Here again the Home Helps proved their worth, as they always do in adverse times.

THE WORK OF THE SERVICE

There has been a further increase in the number of requests for help for the aged and chronic sick, both over 65 and under. The maternity work has dropped, this being due to the fact that fewer babies are being born at home.

The organisers have paid a total of 8,893 visits, 2,047 being primary visits, 6,196 subsequent visits and 650 abortive visits.

Records show that the highest number of requests for help came from the following :—

Hospital Social Workers	...	...	...	787
General Practitioners	...	...	...	358
Patient or Relative	...	...	...	357
Health Visitors	...	...	...	184
District Nurses	...	...	...	178
Others	...	...	...	147
Department of Health and Social Security	...	...	...	114
Welfare Services	...	...	...	89

Although some 200,000 hours less were worked by the Home Helps due to strike action, nevertheless, the service was maintained due to the skill and initiative of the organisers.

Follow-up visits paid by the Assistants numbered 9,952.

RECRUITMENT AND TRAINING

The number of Home Helps at the end of 1970 was 689 part-time and 9 full-time. Recruitment has remained good and it has been possible to be selective. Combined in-service training has been held regularly from January to May and October to December. Because of peak holidays from June to September, it is not possible to release Home Helps for training. New recruits are sent out with the existing experienced Home Helps for three days and report for training at the next school term. Fourteen schools have been held, totalling 279 Home Helps and of these 154 were new entrants. Three only withdrew at the end of the week.

Talks to many Women's Organisations, Health Visitor Students and Pupil Midwives have been given. Student Nurses and trainee Administrative Officers have spent time within the department.

I should like to express the appreciation and thanks of all members of the Home Help Section to Dr. Wofinden and colleagues in the Public Health Department for their help and encouragement over so many years as 1970 sees the end of a long and valued association.

HEALTH EDUCATION

P. Mackintosh

(Health Education Officer)

This year organised health education in Bristol achieved its majority; it came of age, it was in fact 21 years old.

The first health education appointment was made in 1949, just one year after the National Health Service Act became law. Looking back on the Annual Report for 1949 one detects a note of optimism in the future; people were still a little weary after World War II, many things connected with everyday living were still in short supply or on ration, but there was a great deal of health and social legislation which had passed or was passing through Parliament and there was a general feeling of hope for the future. We had a "free" Health Service—no more buying your spectacles in Woolworths, or going toothless because you could not afford dentures!

So, today, once again, we in the Health Service and Local Government have reached another landmark; a White Paper has been published outlining large-scale changes in the organisation of Local Government: a Green Paper suggests a scheme for the complete reorganisation of the National Health Service. In 21 years we have come the full circle; put in another way, the expectant mothers attending our Clinics 21 years ago are today's grandmothers, their babies are today's parents and in many respects we see today's parents accepting as routine measures, e.g. preventive inoculations, things which we were urging and persuading yesterday's parents to accept.

It would be an interesting exercise to review the whole field of health education in Bristol during these last two decades, but space—and time—does not permit. However, it might be worthwhile looking at the effects that preventive inoculations have had on the health of Bristol citizens. In 1949, diphtheria, the scourge of childhood, was the only disease against which protection could be offered; there were four cases in Bristol that year, although it was the third successive year without a death from the disease: there has been no case in Bristol since—21 years of freedom from a killer disease. Whooping cough killed two young children in 1949, whilst 369 others experienced the distress and discomfort of the disease. In 1953 a vaccine became available and the following year no deaths occurred from the disease. This year, 87% of all Bristol children under two are protected; of the 39 cases 32 had not been fully protected. Although cases of tetanus are rare, some protection is necessary against this killer disease and in 1956 anti-tetanus inoculations were combined with those against diphtheria and whooping cough.

As long ago as 1949 Dr. Parry, the Medical Officer of Health, referring to the 130 confirmed cases of poliomyelitis in the City, warned that "this prevalence no doubt, will mean a large number of carriers which in its turn will account for the occurrence of more cases in the City during the next few years". The following year there were 277 cases in Bristol and for the next 11 years more and more cases occurred. But in 1956 when the first small quantities of Salk vaccine became available, there was hope that this disease too might be brought under control. By 1958, the vaccine had been made available to everyone up to the age of 25 years; five years later the Sabin oral vaccine was introduced and now in 1970 the City has been free of poliomyelitis for nine years.

In my last year at Grammar School I appeared in a photograph of the school rugby team; five years after the photograph was taken only 10 members of the team were alive—the remaining five boys were dead, victims of tuberculosis. In Bristol in 1949 there were 552 new cases of pulmonary tuberculosis reported and 83 of non-pulmonary. In 1952 B.C.G. vaccine became available and was at first used on schoolchildren contacts only, but by the summer of 1954 parents of all 13-year-old schoolchildren were offered the opportunity to have their children protected against T.B. and this year the acceptance rate has been 80%. Of the four cases reported in schoolchildren, three have so far been found to have been infected by older members of their family.

One more example: in 1949, a "non-measles" year, there were 3,700 cases in the City. In 1964 Bristol was one of the authorities invited to take part in a measles vaccine trial and two years later we were able to start a measles vaccination scheme. In 1970, 1,384 cases were reported in the City and as quoted by the Department's Epidemiologist, "the effect of the use of the measles vaccine has been to alter the biennial pattern of the disease"—but these are early days.

So in two decades so many diseases have been brought under control by the discoveries of

USEFUL INFORMATION

Smallpox Cholera Yellow Fever

They all require international certificates. One inoculation is required for Smallpox which after three years should be repeated. A course of two injections is required for Cholera which is only valid for six months and one injection for Yellow Fever which is valid for ten years. If both Yellow Fever and Smallpox injections are required, Yellow Fever MUST be at least ten days before you travel.

Typhoid/Paratyphoid (TAB)

A course of two or three injections is desirable for travellers to any where in the world. Protection lasts for about two years.

Typhus and Plague

Travellers to Africa or the Eastern Hemisphere should enquire about these.

Malaria

No vaccine is available. While in a malarious area take tablets regularly and continue to do so for a month after you have left. Usually tablets are 7-Phydroxy Chloroquine. These will not protect you in certain types of malaria found in some districts. It is important to make enquiries to ensure that your tablets will be adequate. Malaria occurs in South America, many parts of Africa and the Middle and Far East.

Some rules

Never drink suspect water unless you are certain that it comes from a safe town supply. It is safer to boil or swallow it with tablets which are available from most chemists. This rule applies to cleaning your teeth. Never eat unwashed unpeeled fruit, wash and peel it yourself.

Protect food from flies

Protect yourself from insects which bite. Use insect repellent cream and if needed mosquito nets, especially in the evening and night.

British Health and Social Services Department
GPO Box 201, Tower Hill, London E5 9 7DD
Telephone BRistol 21010 ext. 253

February 1970

P&S Trav. Publ.

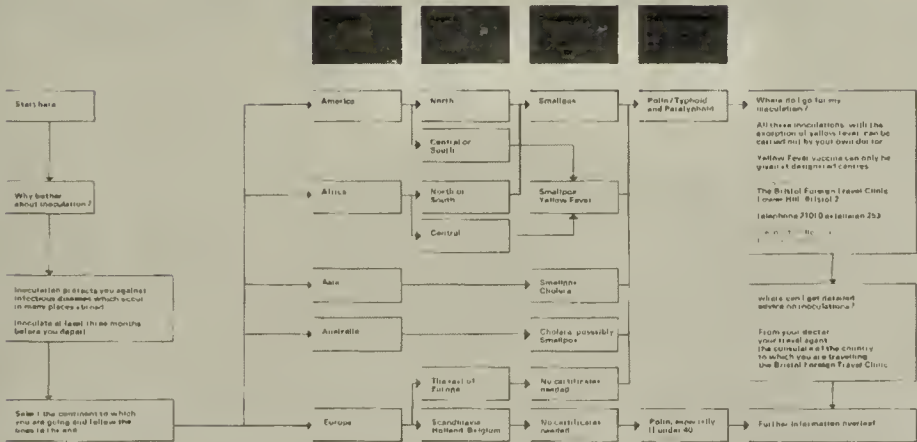
READY TO GO ABROAD ?

Not without your immunisation

Here is all that you need to know



Outside of the Foreign Travel leaflet.



'Flow-chart' inside the Foreign Travel leaflet.

POISONED!

EMERGENCY TREATMENT

THE UNCONSCIOUS PERSON

1. Give **NOTHING** by MOUTH
2. If **NOT BREATHING**
—give artificial respiration
3. If **BREATHING**
—turn patient almost on face

THE CONSCIOUS PERSON

1. If **MOUTH BURNT**
—give sips of milk or water to dilute poison
2. If **MOUTH NOT BURNT**
—make sick
(give 2 tabs salt in $\frac{1}{2}$ pint water or put fingers down throat)

ALWAYS SEND TO HOSPITAL BY QUICKEST MEANS
(and take if possible sample of poison and/or vomit)

be wise!



IMMUNISE

by The Health Education Staff of Department of Health & Social Security
in the form of a C. B. 1001 Form H. 1. Brochure T. 1001 G

The KISS OF LIFE will SAVE A LIFE

UNTIL THE RESCUE
TILL DEAD MEN

JUST A KISS SAVED
PETER THE BOY



OTHER PEOPLE MAY BE
KILLED BY THE SAME
POISON THAT KILLED
PETER THE BOY

THIS IS THE POISON CAN BE
KILLED BY THE SAME
POISON THAT KILLED
PETER THE BOY

THE DEPARTMENT OF HEALTH & SOCIAL SECURITY
T. 1001 G

various vaccines and preventive inoculations, but today's scene might not be so promising without the efforts of the health educators: years of patient education and persuasion by doctors, health visitors and others, to get the public to accept the new discoveries. It is some time now since the Health Education Section have been asked to mount a large scale campaign to arouse public interest and motivate people to protect their children against the killing and crippling diseases. Most of today's parents accept the preventive inoculations and vaccinations as routine measures in the bringing up of their children.

V.D. PUBLICITY CAMPAIGN

Nevertheless, campaigns are still necessary in connection with other health problems, and today one of the problems we are dealing with—and with a good deal of publicity—is one which, 20 or so years ago was very much “hush-hush”. Those of use who served in the Armed Forces in World War II had listened to warning talks about the problem and had seen films about it, but otherwise there was little open discussion or publicity about it.

In the Annual Report of this Department for 1949 there appears under the heading “Venereal Diseases” the following :—

“It will be seen from this table that there has been a further steep fall in the known incidence of all specific infections. Early syphilis, which is a good index of the prevalence of venereal disease in the community, has fallen by one-half in the case of males and by two-thirds in the case of females as compared with 1948”.

The figures quoted for early syphilis were 39 males and 18 females, whilst the total syphilis figures were 82 and 50 respectively. Cases of gonorrhoea were 128 males and 42 females.

In this 1970 Report the Consultant Venereologist writes: “there was again a marked increase in the number of patients seen”. The incidence of syphilis was low—24 cases—but the number of cases of gonorrhoea was 1,423, a figure which is double the number of cases of five years earlier: just under 40% of these cases were young people under 20 years of age and there were actually 6 male and 28 female patients under 16.

Thus the V.D. publicity campaign launched in 1969 was continued throughout 1970. Notices on Bristol buses giving details of the location of the Bristol Clinic were displayed throughout the year, despite the fact that such display infringed the Indecent Advertisement Act of 1889. However, in June, Section 5 of this Act was revoked. The Students' Union at the Polytechnic displayed some of the special Fablon posters which had been distributed to places of entertainment, night clubs etc. in 1969.

Towards the end of the year it was decided to install a V.D. Telephone Answering Service, so that any member of the public could, if they rang a special 'phone number, receive a recorded message from the Medical Officer of Health giving the symptoms of syphilis and gonorrhoea and the location and times of the Special Treatment Clinic in Bristol. This idea was first tried out in Watford and the response to the Service had been encouraging.

In order to publicise the 'phone number, it was decided to put a notice in the Personal Column of the “Evening Post” once each week, and in “Blackboy's Diary” a small display advertisement on alternate weeks. In addition, special Fablon notices publicising the 'phone number were printed, and negotiations were started for these notices to be displayed in all hotels and public houses in Bristol. A further approach was made to the T.U.C. to see if the notices could be displayed in factories and workshops.

The V.D. Telephone Answering Service came into operation on 18th January, 1971. At the time of writing, the Service had taken nearly 22,000 calls in 6 months.

A further development in the V.D. Campaign was a series of discussions with a Consultant Venereologist, Miss Buchanan of the “Evening Post”, the Health Education Officers and members of Bristol Cine Society, to explore the possibility of making a film about the problem of V.D. Most of the existing films on the subject were viewed and by the end of the year there was general agreement that a Bristol-made film was possible. As part of this exercise several screenings of the film “A Quarter Million Teenagers” were arranged for groups of young people to find out their views as to the type of film on this subject which would most impress them. This American-made film was used by a Consultant Venereologist during a special study day arranged for full-time youth leaders.

PUBLICATIONS

The booklet “Drug Dependence” continued to sell steadily and by the end of the year total sales and distribution amounted to 35,000 copies. In December the eighth edition was being

printed. The posters "Kiss of Life" and "Be Wise, Immunise" sold quite well and a leaflet,—a replica of the "Kiss of Life" poster, was also produced. Another leaflet, "Poisoned", was produced for distribution from the "Learn to Save a Life" exhibition at the Bristol Flower Show and this will be produced for sale to other authorities in 1971. A series of four or five posters on basic first aid is also planned for 1971.

Another leaflet and poster were produced for the Foreign Travel Vaccination Campaign. Following the Zermatt (Swiss) typhoid outbreak in 1965, the Department received a tremendous number of requests for information on what inoculations and vaccinations were required by different countries. A smallpox scare in Spain in the following year again resulted in a situation when, for several weeks, the telephone switchboard at the Central Clinic was 'blocked' for long periods by foreign travel queries. It was evident that some simple and informative leaflet was required, which could be handed out by general practitioners, pharmacists and travel agents.

Apart from those who have to travel overseas on business, most people contemplating a holiday abroad, start thinking and planning about it in the mid-winter months, so that any campaign designed to influence these people must be under way during January, February and March. In January, letters were sent to all general practitioners, pharmacists and travel agents, asking if they would agree to distribute any foreign travel information leaflets. There was overwhelming support for the suggestion. In the meantime, it had been agreed that a poster and leaflet should suffice and two students from the West of England College of Art agreed to produce draft designs. The resulting "Going Abroad?" poster and leaflets—30,000 leaflets and 600 posters—were widely distributed in the first three months of the year. During the last month of the campaign a window display was arranged in the City Information Centre, with the same "Going Abroad?" theme; a good deal of holiday clothes and sports 'gear' were very kindly loaned by Lewis', John Bryant's and Sportsfair, and the display was arranged by students from Filton Technical College. The campaign was launched in January with an article in the Department's new bi-monthly bulletin "Health in Bristol".

"HEALTH IN BRISTOL"

From October 1956 until December 1969 the Department produced the "Monthly Bulletin of the Medical Officer of Health". On about five occasions only did the Bulletin fail to appear, and these were occasions when for various reasons articles had to be held over.

Starting in 1970, it was decided to produce a new bulletin which would appear six times a year; that it should be in the form of a single-fold newsheet and that unlike its predecessor, which was cyclostyled, it should be printed. The new publication is called "Health in Bristol"; it has an attractive lay-out and, apart from a main feature articles in each issue, contains news items, epidemiological notes and a section entitled "Off the Cuff" contributed by the Medical Officer of Health. An editorial board meets at intervals to plan the content of future issues. "H.I.B." has a very wide distribution and has a circulation of approximately 1,600 copies.

RADIO BRISTOL

During the year a local radio station was opened and early contact was made with the staff. In November the Health Education Officer took part in a pre-Guy Fawkes safety programme. Radio Bristol have expressed a strong interest in many of the Department's activities and it seems highly probable that the Health Department will be given a regular 'spot' on the local programmes.

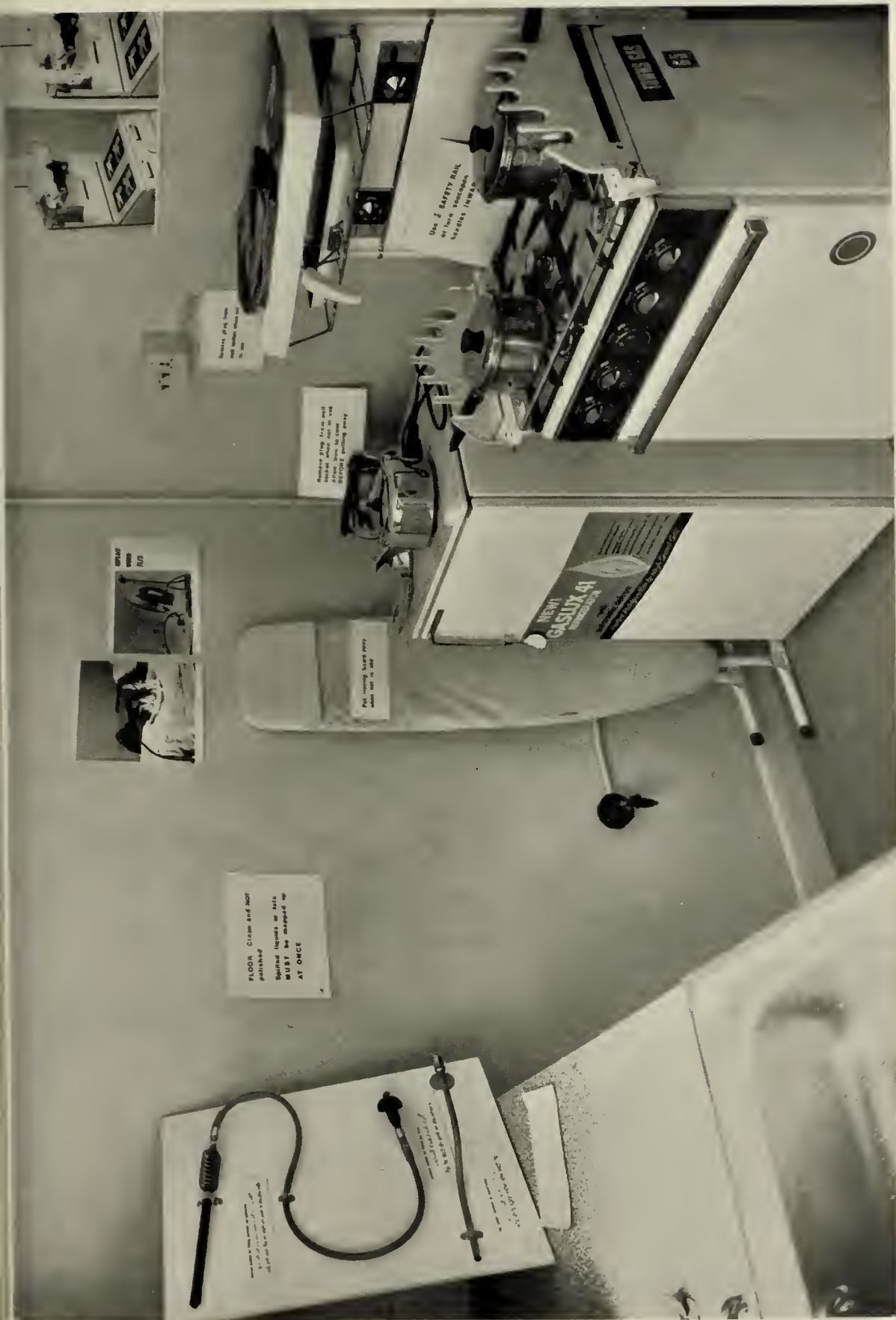
With the proposed changes in local government boundaries and the establishment of area health boards, Radio Bristol seems to hold great promise as a means of communication in the larger areas to be covered by the new health service organisation.

HEALTH EDUCATION IN SCHOOLS

A summary of the health education developments in schools appears in the Report of the Principal School Medical Officer.

BRISTOL HOME SAFETY COUNCIL — 1970

There were 42 deaths from home accidents during the year, 25 females and 17 males. The pattern of fatal accidents is very similar to previous years, falls accounting for 10 males and 14 females; the youngest male, a two-year-old, fell down the stairs at home, whilst the death of a 37-year-old man, who fell from a ladder, reminds us sharply that it is not just the aged and



A corner of the kitchen in the "Home Safe Home" exhibition

infirm who are at risk from this form of accident. Among females, a little girl, in her first year, succumbed to head injuries caused by a fall; the remainder of the females were in their 70's and 80's, the oldest victim being 97.

A disturbing feature among the fatalities is the number of deaths caused by the inhalation of carbon monoxide (coal gas), four males and 6 females. Two males, aged 26 and 22, and two females of 35 and 25, died whilst taking a bath. In one a defective geyser flue is specifically mentioned, but all four deaths might have been prevented if the bathrooms had been properly ventilated. Burns were responsible for the deaths of two males and four females: a 25-year-old man's clothes caught alight whilst he was adjusting an oil heater, and a 46-year-old man, whilst working in his parked car, sustained massive burns when an explosion occurred in the car. Two ladies in their eighties and one aged 75 died from burns when their clothing came into contact with unguarded fires, as also did a little girl of six. The two other deaths occurred when a 63-year-old woman was scalded in her bath and a 48-year-old man suffocated whilst suffering from alcoholism.

Although there were 13 fewer deaths than in 1969, it is still a matter for some concern that so many frail old people end their days so tragically and too, in 1970, several men and women in their prime of life, died in an unguarded moment, in their own homes. In this report we refer merely to figures and to males and females but each one was a human being, someone's loved one, someone perhaps whose place will never again be taken. We must not forget too, the many non-fatal accidents, some trivial, but some perhaps leaving dreadful physical and mental scars. It is to be hoped that when the Research Division of the Health Education Council have completed their survey in Bristol, we shall have some idea of the size of this problem.

The main features of the Council's activities during the year were connected with the St. Paul's Festival and Bristol Flower Show. For several years now a three-week Festival, in June, has been held in the St. Paul's area of the City: this is an area occupied predominantly by immigrants. Various exhibitions, concerts and parades are arranged and in 1970 the Council was asked by the Festival organisers if some form of home safety exhibition could be staged.

Through the good offices of the Housing Committee, an empty terraced house was put at the disposal of the Home Safety Council for one week. The house had been "improved" and completely redecorated. The owner of a secondhand shop in Clifton very kindly provided most of the furniture and furnishings; many items were supplied by the Housing Department, whilst the South Western Gas Board and the South Western Electricity Board equipped the kitchen and provided electric heaters for the bedrooms. Everywhere in the house safe and correct equipment and furniture were displayed whilst alongside each, a photograph of the wrong and unsafe item was shown. Suitable captions were printed in English, Hindi and Urdu. Since the emphasis was very much on fire prevention each room contained a compact illustrative exhibition. The house was manned for one week by officers from the Fire Prevention Branch of the Fire Brigade and volunteers from the Red Cross and St. John's Ambulance Association. "Home Safe Home" was a positive form of exhibition, in a house typical of so many in the St. Paul's area.

At the Bristol Flower Show, the exhibit "Learn to Save a Life" aroused a good deal of interest, with continuous demonstrations of mouth-to-mouth resuscitation being given by the Training Officer, Health Education Officers, Health Visitors and volunteers from St. John's Ambulance, Red Cross and City and Marine Ambulance Corps.

Using a back projection unit, there was continuous projection of coloured slides of sweets and of tablets and drugs. Members of the public were invited to participate in a competition to identify each slide. There were 665 entries and three class winners. The prizes were books; for the 11-year-old and under "The Pocket Encyclopaedia of Wild Flowers"; for the 12-15 year-old class, "Poisonous Plants and Berries"; and for the 16 years and over class, "The Concise British Flora in Colour".

The member organisations of the Home Safety Council again record their thanks and appreciation to members of the Health Committee for their continued support and interest.

I. Lobb (Chairman)

P. Mackintosh (Secretary)

THE MENTAL HEALTH SERVICES

H. Temple Phillips
(Senior Principal Medical Officer)

F. Morton
(Mental Health Officer)

K. R. Pennington
(Deputy Mental Health Officer)

SOCIAL WORK

In May, 1970, the Committee approved an additional establishment of six Mental Welfare Officers. It was considered to be desirable to maintain the "six districts" system, and it therefore became possible to plan for one Senior Mental Welfare Officer, two Mental Welfare Officers and one Trainee or Welfare Assistant to each area. The future team structure, should, therefore, provide for better distribution of work in accordance with individual officers' competence, and the complexity of the problems being handled. By the end of the year, only one of the six new posts had been filled; the remainder were being re-advertised.

A change in team leadership was occasioned by the retirement of a Senior Mental Welfare Officer, who was replaced by an officer from another local authority.

At 31st December 1970, three Mental Welfare Officers were detached to Social Work Training Courses—two on secondment to "two year" courses, and the other having been granted leave of absence to attend a "one year" course. In addition, a trainee social worker was on secondment to the "two year" course.

Social work case loads have continued to increase, and at the end of the year, 815 subnormal persons and 266 people suffering from mental illness (a total of 1,081) were receiving home visits. As in previous years, it was necessary to review and reduce lists constantly, and to be very selective in the acceptance of new referrals, in order that adequate attention could be given to active cases.

MENTAL ILLNESS

In 1970, 563 new cases of mental illness (217 male and 346 female) were referred from the sources shown in Table 'A' for community care services such as social work support, workshop or club attendance, or hostel care. This represents an increase of 179 over the number for the previous year. Four of the new referrals were under the age of 16 years. In addition, 114 men and 191 women (a total of 305) were referred specifically for admission by Mental Welfare Officers to psychiatric hospitals—a reduction of 42 as compared with 1969.

In total, therefore, 868 new referrals were made, 137 more than in 1969.

Table 'B' shows that 266 mentally ill (or elderly mentally infirm) persons were receiving services from the mental health section on 31st December 1970—an increase of 10 over the figure recorded at the end of 1969.

SUBNORMALITY AND SEVERE SUBNORMALITY (MENTALLY HANDICAPPED)

73 new cases in this category (43 male and 30 female) were referred during the year from the sources set out in Table 'A' at the end of this report. Of these, 41 were under the age of 16 years.

At the close of the year, 815 mentally handicapped children and adults were receiving community care services from the local authority—an increase of 64 over the number recorded at the end of 1969. Home visits were being made by Mental Welfare Officers in each case irrespective of whether other services were being provided.

454 were attending local authority day training centres, as follows:—

Bush Training Centre Special Care Unit ...	...	35
Bush Training Centre Junior Section ...	...	142
Bush Training Centre Adult Section ...	...	201
Stratton Street Day Centre ...	...	28
Snowdon Road Workshops ...	...	48
		<hr/>
		454

In addition, three were placed at Industrial Therapy Organisation (Bristol) Limited, and 16 were being transported to the hospitals for daily care.



HTP 18. 12. 70

24 men were receiving hostel care for an indefinite period, and 139 children had been provided with short-term hostel accommodation during the year.

The accompanying spot-map shows the distribution of known cases of mental subnormality in December, 1970. It should be emphasised that it does not purport to show all cases, but only those on the current visiting lists of the Mental Welfare Officers. It is of interest to compare this map with those which were included in the Medical Officer of Health's annual reports for 1953 and 1960. The main changes are those associated with housing clearance and redevelopment—i.e. (a) the decreased number of cases in the St. Paul's—St. Philip's—Barton Hill area and the Hotwells area, and (b) the increased number in the Highridge—Bishopsworth—Withywood—Hartcliffe area and in the Henbury—Brentry area.

Waiting List

On 1st January 1970, there were 50 names on the waiting list for admission to hospitals for the mentally subnormal, and during the year 31 names were added. Of the resultant 81, vacancies were found for 29, leaving a requirement of 52 beds for the following cases at the end of the year :

	Male		Female		TOTAL
	Under 16	16 and over	Under 16	16 and over	
Subnormal	3	9	—	5	17
Severely Subnormal ...	10	9	10	6	35
	13	18	10	11	52

Apart from admissions from the waiting list, a total of 51 were admitted to hospital as a result of emergency situations, or for temporary residential care. Hospital admissions, therefore, totalled 80 during the year, and were arranged in accordance with the following sections of the Mental Health Act, 1959 :

	Male	Female	Total
Section 5 (Informal) ...	40	38	76
Section 25 (Detained) ...	1	—	1
Section 26 („) ...	2	—	2
Section 29 („) ...	—	—	—
Section 60 („) ...	—	1	1
	41	39	80

Hospital Day Care

There was virtually no change in the provision of hospital day care facilities for the mentally subnormal during the year.

At 31st December, four children and 12 adults were being transported daily by the Ambulance Service.

OUT-PATIENT CLINICS

As in previous years, Mental Welfare Officers attended a number of the psychiatric clinics in order to provide social work support to out-patients, and they also made home visits, in selected cases, prior to the attendance of patients at clinics, in order to compile social histories for the use of the psychiatrists.

“Assessment” clinics (out-patient clinics for the mentally subnormal) were held, as previously, at the Central Health Clinic and the Bush Training Centre. During 1970, additional out-patient clinic facilities have been made available at Stoke Park Hospital so that the pressure on the clinics has been relieved.

	New Cases	Follow-up Cases	Total
Bristol L.H.A.	41	86	127
Gloucestershire L.H.A. ..	—	6	6
Bath L.H.A.	—	1	1
	41	93	134

WORKSHOPS AND TRAINING CENTRES

Snowdon Road Workshops

Throughout 1970, the 50 places in this "industrial tempo raising" workshop were filled, and a small waiting list was maintained.

The approximately equal proportion of men and women were kept occupied carrying out assembly processes for local manufacturers. The main contact concerned the making up of dressing packs and cytology sets for the South West Regional Hospital Board Supplies Department, and an average of 40,000 packs per month were produced, the variety of packs having increased from 16 to 30 during the year. There was a constant supply of additional work available so that it was again possible to provide a variation in tasks performed and in materials handled.

The link with the special schools for the Educationally Subnormal was maintained, pupils from the schools being received for industrial training periods throughout the year.

The strike of local authority manual workers caused the workshop to close for five weeks during the year, and during that time great difficulty was experienced in maintaining supplies of packs to the hospitals.

In November, the workshop was moved into temporary accommodation at 100 Fishponds Road to facilitate the building of an extension to the Snowdon Road premises. It was, however, possible to maintain full production throughout the two days required to move stores and equipment. The male trainees gave considerable assistance in the move, and everyone settled quickly in the new surroundings.

The future Snowdon Road accommodation will provide for an increase in places from 50 to 125 as well as a considerable improvement in storage space.

The customary large number of visits were received from students, who came either for observation periods or on practical placement.

Bush Training Centre

The register of names of children attending the Junior Training Centre and Special Care Unit shows a variation of two during the year; at the end of 1969 the number was 175, and at the end of 1970, 177. There were 142 children aged between five and 17 years in full-time attendance in the Junior Training Centre, 24 in full-time attendance in the Special Care Unit, with 11 children under five attending on a part-time basis.

The pressure for places continues at this lower end of the age scale, and we have now a waiting list of six children under five years for whom attendance has been requested, but we have managed to cater for all children referred for full-time attendance on their fifth birthday.

It is of some interest to look, at this point, at the growth of the Junior Training Centre in terms of numbers since the opening of the establishment in June 1963. In December of that year there were six names on the Special Care register and 118 on that of the Junior Training Centre. The growth is, therefore, shown:

<i>December 1963</i>				<i>December 1970</i>			
Special Care Unit	...	...	6	Special Care Unit	...	...	35
Junior Training Centre	...	...	118	Junior Training Centre	...	...	142

The most significant feature of the year is, of course, the Education (Handicapped Children) Act receiving Royal Assent on July 3rd, providing for the transfer of responsibility for mentally handicapped children from health and social services to education authorities. Since this date, many consultations have taken place at all levels, between both authorities and, indeed, with voluntary bodies on the many complex issues involved.

Simultaneously, with the passing of this Act in July, came, with comparable significance, the change in the programme of teacher training by the various colleges of education; the two-year course for student teachers was extended to three years, bringing parity of preparation for teachers of mentally handicapped children with students preparing for the Certificate of Education. This change brought very real practical problems to the Junior Training Centre in terms of staffing, and we felt it was important to envisage a year of staff shortage so that we would be in the position of recruiting staff by selection in 1971 rather than through expediency in 1970.

In September we started the term with a staff shortage of five, with a degree of apprehension, but were in the happier, and very reassuring position at the end of October, of having appointed three qualified teachers, two holding the Certificate of Education and one with the Diploma of the Training Council, and the additional advantage of two years' post-diploma experience. During the last three months of the year, it has been necessary to adjust and contract several facets of

our overall training programme, due not only to staff shortage, but to additional national problems such as the Local Authority manual workers' strike. The overall programme has continued, and the year has shown continued and steady progress.

Adult Training Centre

The year has shown a steady increase in the names appearing on the register. In December 1969, the number was 185; this has been increased by 16 and now stands at 201. This number, in a building designed for 150 has, as would be expected, put an enormous strain on the total resources of the unit.

The staff have made admirable efforts to combat the effects of this now very considerable degree of overcrowding, contracts have been maintained, and, indeed, increased, despite the added set-backs arising from national industrial strikes and increased local competition for contract work. Social Education programmes have continued during the day; the demand from parents and trainees for evening class places has steadily increased, and educational and recreational activities have been maintained.

From the tables set out below, can be seen the structure of the register, and the sources of fluctuations in the numbers during the year and the various age and sex groups:

	<i>Male</i>	<i>Female</i>
15—20 years	31	21
21—25 years	28	31
26—35 years	28	27
36—45 years	10	11
46—55 years	3	3
56—65 years	4	2
66—75 years	2	—

Seven trainees were transferred to Snowdon Road Advanced Workshops, three returning for further social training. Two left with parents moving from the Bristol area, one went into employment as house-boy at Marlborough House Hostel, ten left to be cared for at home at parents' request or for other personal and acceptable reasons. 14 young people progressed from the Junior Training Centre on reaching the age of 17 years, and 8 were Special School leavers needing additional help before facing sheltered or open employment. The remainder came from families moving into Bristol.

Of particular significance in 1970 was the recognition of equal rights of status and pay for female staff vis-a-vis the male.

Stratton Street Day Centre

Although there are only 26 places in this day care unit for severely mentally subnormal and severely physically disabled children, it was possible to provide facilities for 28 children by arranging part-week attendance in selected cases.

As in previous years, children benefited from physiotherapy, and from weekly water play in the Bush Training Centre swimming pool. Medical and dental examinations were carried out.

Under the direction of a new Supervisor, who took up her duties on 1st January 1970, a great deal of effort went into creating a 'Nursing' environment with emphasis on play, and a small Parent/Teacher group was formed.

A number of overseas visitors went to the Centre during the year. Students attended from the N.A.M.H. two-year training course for teachers of the mentally handicapped, the Bristol Polytechnic General Social Work Training Course, the Nursery Nurses Course, and the Police Cadets training school. Visits were also made by the senior pupils of several Bristol schools.

HOSTELS

Residential Unit for Mentally Subnormal Children—Hengrove

The year has shown a marked increase in the demand for admission for short-term care. 138 children were admitted in 1970, as compared with 118 in 1969. The distribution over the year is shown in the following table:

No. of admissions to Residential Unit during 1970					
January	...	9	August	...	12
February	...	10	September	...	13
March ..	...	7	October	...	10
April ....	...	8	November	...	13
May ...	...	11	December	...	6
June ...	...	20			
July ...	...	19			
			<i>Total</i>		138

Total number of families served—63.

The appointment of the new resident assistant matron in January did not, as we had hoped, solve the staff shortage problem, as at this time the non-resident assistant matron had to leave her post due to prolonged ill-health. The Unit was, therefore, in the same unhappy position of running with a 33½% staff shortage, i.e. one staff away from a three staff establishment. This position was resolved on December 23rd, when a new non-resident assistant matron was appointed, enabling us to finish the year with the rarely achieved situation of a fully staffed unit.

The question of the staffing of this unit has always been problematic as it is difficult to justify a recommendation for an increase of establishment in a unit with a specific function of providing short-term care for children to relieve the pressures in the homes at stress periods.

The system of staffing which has evolved over the years would appear to be a satisfactory workable compromise, and this is to maintain the original establishment of three, supplemented at peak demand periods with part-time helpers.

We have been fortunate in having been able to establish over the years a continuing system of recruitment of second and third year teacher training students seeking vacation employment, which invariably coincides with our needs. These young people have not only provided the necessary practical help, but the children have benefited from the impact of exposure to fresh young minds, full of enthusiasm and enterprising and progressive ideas in play and development.

Marlborough House Hostel

At the commencement of the year, there were three vacancies in this hostel for subnormal employable men. These were filled very early in the year, and the hostel has been occupied to capacity since that time.

There were eight admissions—three from hospitals for the subnormal, one from the Salvation Army Hostel, one from a Children's Department family group home, one from lodgings, and two from their own homes.

During the same period, five men left the hostel—three going into lodgings, one leaving against advice to return to the Salvation Army Hostel, and one having to return to a psychiatric hospital for further in-patient care.

In addition, four men were accepted for short-term care to meet social emergencies or to provide holiday relief for relatives.

The unit again established its value as an important part of the Local Authority's rehabilitative service.

A holiday was, as usual, organised for 14 of the men who were unable to make independent arrangements, and an active social programme was pursued throughout the year.

Devon House Hostel

On 1st January, 1970, there were 13 residents in the hostel, the one vacancy being retained for a man who had re-entered a psychiatric hospital for informal treatment.

During the year, 11 men and nine women (a total of 20) entered from the under-mentioned sources:

Glenside Hospital	...	...	11
Barrow Hospital	...	...	6
Parents' home ..	...	...	1
Lodgings	...	...	2
			—
			20
			—

In the same period, 11 men and ten women (a total of 21) left the accommodation as follows:

Home of relatives	...	...	2
Lodgings	...	...	11
I.T. Housing Association			
Accommodation	...	...	1
Psychiatric Hospitals	...	...	7
			—
			21
			—

Therefore at the close of the year, there were two vacant beds in this 14-bedded hostel.

The following table shows the length of hostel care provided for those residents who moved out during the year:

					<i>Male</i>	<i>Female</i>	<i>Total</i>
Six months or less	...	...	...	...	5	8	13
7—12 months	...	...	...	...	4	—	4
1—2 years	...	...	...	...	1	—	1
2—3 years	...	...	...	...	—	1	1
3—4 years	...	...	...	...	1	—	1
4—5 years	...	...	...	...	—	1	1
					11	10	21

Mental Welfare Officers and the hostel staff have combined to support all hostel residents, and an active rehabilitation programme has been carried out.

The rapid turnover of residents, which, in itself, demonstrates the value of this hostel as a rehabilitative medium, has inevitably caused periods of under-occupation during the year with associated increased unit costs.

Petherton

This hostel for 35 elderly mentally infirm persons has been fully occupied throughout the year.

A constant flow of applications for admission has been received from psychiatric hospitals, geriatric hospitals, Part III accommodation, and from General Practitioners and Social Workers working with people living in the community. A considerable waiting list has been reviewed monthly at case conferences attended by the Senior Principal Medical Officer, a Consultant Psychiatrist, a Consultant Geriatrician, the hostel staff and the Mental Welfare Officers. Attempts have been made, throughout the year, to assess priorities for admission.

During 1970, 13 women and four men were taken into the hostel, while 10 women and seven men were discharged. The tables on the following pages provide details of the admissions and discharges during 1970, and also throughout the period of operation. It is interesting to note that six women and three men have been transferred from 'Petherton' to normal old people's homes, and that, of these, three men and four women (a total of seven), entered 'Petherton' from psychiatric hospitals. Therefore the hostel has been shown to have some rehabilitative value in the psycho-geriatric field.

The failure to maintain places for short term care has been entirely due to the great pressure to provide permanent care which has been put upon the small number of hostel beds.

At the end of 1970, there were only three male residents in Petherton, and very few male applicants have been referred. A higher proportion of men is thought to be desirable, but a preponderance of female psycho-geriatric problems is customary throughout this field of work.

(PETHERTON—HOME FOR THE ELDERLY MENTALLY INFIRM)

Period	ADMITTED FROM :				DISCHARGED TO :				Total	No. of admissions for temporary care (also recorded in previous columns)		
	Community	Part III Accom.	Hospitals (General or Geriatric)	Hospitals (Psychia- tric)	Total	Died in Hostel	Own home or lodgings	Part III Accom.			Hospitals (General or Geriatric)	Hospitals (Psychia- tric)
17.4.68 to 31.12.68	27	2	7	8	44	1	7	—	1	1	10	10
1969	11	1	2	2	16	3	5	4	2	2	16	4
1970	3	3	4	7	17	1	1	5	7	3	17	—
Totals	41	6	13	17	77	5	13	9	10	6	43	14
Male	5	—	5	7	17	2	4	3	2	3	14	4
Female	36	6	8	10	60	3	9	6	8	3	29	10
Total	41	6	13	17	77	5	13	9	10	6	43	14

CLUBS

Somerset House Social Therapy Club

This club for mentally ill men and women meets each weekday afternoon. There were 56 members at the commencement and 58 at the end of the year. Over the 250 club days, there was an average daily attendance of 25 members.

As many members as possible were encouraged to make their own way to the club, but, when necessary, transport was arranged by the Bristol Ambulance Service.

Club activities included cookery, dressmaking, playreading, keepfit, hairdressing, dancing, and games, in addition to the usual handicraft sessions.

The members were able to help other organisations, e.g. Bristol Old People's Welfare, Muller's Children's Homes, and OXFAM, by donation of collections taken at Easter, Harvest and Christmas services.

Special activities were organised by the staff, and included outings to Teignmouth and Longleat, and attendance at a Bristol pantomime. Pancake making and easter egg decoration competitions were held, and at the Christmas Party, a full Christmas meal was prepared and served.

Steeven's House

During 1970, membership of this club for elderly mentally infirm men and women rose from 28 to 35, and there was an average daily attendance of 14.

As in previous years, selected residents from 'Petherton' attended the club each afternoon.

The first half of the programme at each meeting has usually been devoted to simple handicrafts, and the final hour to social activities. Entertainment has, at times, been provided by visiting artists, and outings have taken place to Symond's Yat, Eastington, and Longleat.

All members have been provided with transport to and from the club.

Townsend Youth Club

The reorganisation of both club sessions and transport arrangements, which was predicted in last year's report, was effected during the year. Provision is now made for three mixed sessions per week, the "boys only" night and the "girls only" nights having been discontinued. As a consequence, the Thursday evening overcrowding has been reduced, and 28 extra transport places have been contrived so that the waiting list has been considerably reduced.

Membership has risen from 100 to 145, and a high average attendance has been maintained.

In addition to the many and varied activities within the club, a number of outings and sporting events, including swimming competitions and cricket, football and netball matches both home (at the Bush Training Centre) and away, have been held.

The part-time Leaders and Assistant Leaders have been closely supported by the many parents of members who serve regularly as voluntary club helpers.

During the year, one of the leaders and the club secretary retired, but replacements were found before the retiring officers departed, and continuity was, therefore, maintained. The club has enjoyed a further very successful year.

TABLE A
MENTAL HEALTH STATISTICS FOR 1970
NUMBER OF PERSONS REFERRED TO LOCAL HEALTH AUTHORITY DURING YEAR ENDED 31 DECEMBER 1970

Referred by	Mentally ill			Psychopathic			Mentally Handicapped			Severely Mentally Handicapped			TOTAL			
	Under age 16			16 and over			Under age 16			16 and over						
	M	F	M	F	M	F	M	F	M	F	M	F				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(a) General practitioners ...	—	—	21	36	—	—	—	—	1	—	—	1	—	—	—	59
(b) Hospitals, on discharge from in-patient treatment ...	—	—	4	8	—	—	—	—	—	—	—	—	—	—	—	12
(c) Hospitals, after or during out-patient or day treatment ...	—	—	98	143	—	—	—	—	—	3	2	—	—	—	—	246
(d) Local Education Authorities ...	1	1	2	2	—	—	—	—	7	1	10	4	3	4	—	35
(e) Police and Courts ...	—	—	8	8	—	—	—	—	—	—	—	—	—	—	—	16
(f) Other sources ...	2	—	81	148	—	—	—	—	9	9	3	9	7	4	—	272
(g) Total ...	3	1	214	345	—	—	—	—	17	10	16	16	10	4	—	640

TABLE B

MENTAL HEALTH STATISTICS FOR 1970

NUMBER OF PERSONS UNDER LOCAL HEALTH AUTHORITY CARE AT 31st DECEMBER 1970

	Mentally ill				Elderly mentally infirm				Psychopathic				Mentally Handicapped				Severely Mentally Handicapped				TOTAL				
	Under age 16				16 and over				Under age 16				16 and over				Under age 16					16 and over			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)							
1. Total Number	...	...	105	107	3	45	—	—	—	—	51	42	54	92	121	135	199	121	1,081				
2. Attending workshops, day centres, or training centres (including special units) ...	—	—	3	1	—	—	—	—	—	—	—	2	1	—	—	—	—	—	7						
3. Awaiting entry to workshops, day centres, or training centres (including special units) ...	—	—	—	—	—	—	—	—	—	—	23	7	32	45	87	76	100	84	454						
4. Receiving home training	—	—	—	—	—	—	—	—	—	—	1	1	—	—	4	3	—	—	9						
5. Awaiting home training	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						
6. Resident in L.A. home/hostel ...	—	—	9	2	3	31	—	—	—	—	—	7	—	3	—	7	—	—	62						
7. Awaiting Residence in L.A. home/hostel ...	—	—	—	—	5	15	—	—	—	—	—	—	—	—	—	—	—	—	20						
8. Resident in other home/hostel ...	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	5	2	8						
9. Boarded out in private household ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						
10. Attending day hospitals ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	1	9	3	16						
11. Receiving home visits and not included in lines 2-10	(a) suitable to attend a training centre																								
	—	—	1	—	—	—	—	—	—	—	1	3	12	13	2	5	13	13	63						
	(b) others	91	104	—	—	—	—	—	—	—	26	31	1	33	22	50	65	19	442						

AMBULANCE SERVICE

E. C. G. Joy
(Chief Ambulance Officer)

The year 1970 will be remembered historically for the fact that the Ambulance Service became involved in industrial actions which resulted in some curtailments of service to the public. All concerned sincerely hope that it will never again be necessary to resort or be called upon to resort to such gestures.

STATISTICS

The curtailments of service affected the number of patients carried and the mileage run. The following tables give the actual numbers of patients carried by the Ambulance service and the supplementary services, together with types of case and mileage. For comparative figures the totals for 1968 and 1969 are shown.

Table 1. Patients

Year	Bristol Ambulance Service				Supplementary Services		Totals
	Accidents	Maternity	General	Total	Taxis	H.C.S.	
1970	9,121	1,852	162,986	173,959	1,866	7,805	183,630
1969	8,969	1,871	168,720	179,560	2,469	5,381	187,410
1968	8,286	1,988	171,484	181,758	2,772	5,382	189,912

Table 2. Allocation of patients to vehicles

Year	Bristol Ambulance Service				Totals
	Stretcher	Ambulances 2-man sitting	Walking	Dual purpose Walking	
1970	32,011	21,480	20,795	99,673	173,959
1969	32,345	22,032	28,075	97,108	179,560
1968	33,562	19,987	31,893	96,316	181,758

Table 3. Mileage

Year	Bristol Ambulance Service		Supplementary Services		Totals
	Ambulances	Dual purpose	Taxis	H.C.S.	
1970	443,780	347,701	12,391	80,621	884,493
1969	473,878	362,292	15,698	54,561	906,429
1968	482,548	340,894	18,564	50,769	892,775

To adjust the patient carried figures to normal levels, in the following table for the months of January, October and November 1970 when service was curtailed, the average figure for the previous two years has been substituted (see *)

Table 4. Patients carried

Month	1968	1969	1970
January	16,699	16,638	16,668*
February	15,417	13,850	15,075
March	15,221	15,078	15,400
April	14,080	14,106	16,792
May	16,803	14,911	15,241
June	13,000	14,617	16,095
July	15,094	15,852	16,711
August	14,313	14,002	15,022
September	14,158	14,910	15,935
October	17,404	16,579	16,992*
November	15,811	14,545	15,178*
December	13,758	14,472	14,719
Totals	181,758	179,560	189,828

This shows a total of 189,828 patients carried by the Ambulance Service in 1970, an increase of 8,070 over the previous highest figure in 1968. In addition, the supplementary services carried a total of 9,671 patients, an increase of 1,517 over the previous highest figure. The number of emergency calls on the service also rose to a new peak, and 9,121 patients were carried.

These increases continue to impose considerable pressures on the staff endeavouring to maintain the standard of the Bristol service. In an effort to ensure efficient usage of staff and vehicles an officer was seconded for an experimental period to work with the clerical and control room staff on advance preplanning of journeys and case loads. This has proved extremely beneficial and is being retained as a feature of the service.

During 1970 the first of the new extensions to the Bristol Royal Infirmary was opened. This was the Radiotherapy Centre and has resulted in further variations of demands on the Ambulance service.

The accompanying map indicates the various hospitals and treatment centres served by the Ambulance service on a daily basis.

EQUIPMENT

Early in 1970 a pilot scheme was conducted in the use of Entonox as an analgesic for the Ambulance service. This gas is used as an inhalant for pain relief in accident situations and medical emergencies. The experiment was a resounding success. Records were kept by the service of patient reaction and comments. Follow-up at the hospital end was carried out by Dr. P. J. Baskett, Consultant Anaesthetist. The South Gloucestershire Ambulance Service conducted a similar assessment during the same period.

In virtually all the cases where the patient was offered Entonox for the relief of pain, marked improvement or some improvement was experienced. It was also found to be beneficial in the case of agitated patients, particularly those experiencing coronary conditions. It relaxed them, rendering their transportation and handling easier to tolerate.

The following tables show the results as tabulated by Dr. Baskett.

ENTONOX IN THE AMBULANCE SERVICE

Total cases surveyed. 305.

Used in cases of Trauma	151	(49%)
Acute Abdomen	57	(19%)
Obstetric	48	(15%)
Myocardial		
Infarction	25	(8%)
Acute Urinary		
Retention	10	(3%)
Miscellaneous	17	(6%)

Degree of Pain relief. 305 cases.

Marked relief	195	(64%)
Partial relief	99	(33%)
None	11	(3%)



Key to numbers

1. Brentry Hospital
2. Southmead Hospital
3. Frenchay Hospital
4. Stoke Park/Burden Neurological
5. M.O.H. Limb Fitting Centre
6. Glenside Hospital
7. Manor Park Hospital
8. Purdown Hospital
9. Maternity Hospital
10. Grove Road Day Hospital
11. Ham Green Hospital
12. Cosham Hospital
13. Mortimer House
14. Walker Dunbar
15. Elizabeth Blackwell
16. Homoeopathic Hospital
17. Childrens Hospital
18. Radiotherapy Centre
19. Bristol Royal Infirmary
20. Dental Hospital
21. Eye Hospital
22. Central Health Clinic
23. Bristol General Hospital
24. Barrow Hospital
25. Winford Orthopaedic Hospital

A new type trolley stretcher was introduced during the year. It enables the foot of the stretcher to be elevated, placing the patient in the Trendelenburg or head-down position. This is of especial benefit with positioning of unconscious patients to facilitate drainage of the air passages.

A start was also made on re-equipping the service with new radio telecommunication sets. These meet the new G.P.O. specifications and together with a resiting of the main transmitter will improve general radio coverage.

TRAINING

Continued use was made of the Southern Ambulance Training School at Bishops Waltham, Hampshire. All eligible staff with under 5 years' service have now completed a two-week refresher course and new entrants have attended the six-week course to qualify as Ambulancemen. The standard of results achieved by the staff on these courses continues to give every satisfaction.

In-service training incorporated a visit to the Motorway Control Centre at Almondsbury for instruction by the police in motorway procedures. Specialist sessions included instruction in the use of Entonox and recognition of patients suffering from Hypothermia.

Staff continued to be seconded to the Bristol Royal Infirmary for weekly attachment to the Accident centre and intensive care wards.

A local induction course of two weeks' duration was run for new entrants to the service.

CONTROL

At the start of the year the Ambulance service was asked to assume responsibility for accepting calls to the Night Nursing Service. This includes accepting messages and requests for District nurses in the evenings and weekends when the nursing administrative offices are closed. The Control staff have absorbed these additional duties and operated them extremely efficiently.

SAFE DRIVING AWARDS

A social evening was held in November last at the Bristol Royal Infirmary School of Nursing when Alderman C. Hebblethwaite, Chairman of the Health Committee, presented the awards gained by members of the Ambulance Service during the years 1968 and 1969. These awards are earned for years of accident free driving under the competition run by the Royal Society for the Prevention of Accidents.

The following is a list of the awards presented.

Bars to 15 year medals	3
15 year medals	3
Bars to 10 year medals	13
10 year medals	4
Bars to 5 year medals	43
5 year medals	10
Annual diplomas	79

HOSPITAL CAR SERVICE

With the increased demands placed on the service, the Hospital Car Service was asked to accept increased daily commitments for the movement of patients. Thanks are due to Mrs. P. Powter Hospital Car Service Organiser, and her staff of volunteer drivers for their ready co-operation at all times.

PRODUCTIVITY AGREEMENT

Protracted negotiations have been taking place between the authority and the National Joint Council with a view to the introduction of a productivity scheme, or more appropriately in a service such as the Ambulance Service, an efficiency agreement.

Short-term Work Study was carried out by members of the Management Services Unit riding with crews on Ambulances and Sitting Case vehicles. Results indicated a high level of performance and coupled with other methods which have been introduced to increase the level of efficiency of the service, it is hoped to finalise the agreement in the near future.

CARE AND AFTER CARE

CARE OF THE AGED

J. F. Skone

(Deputy Medical Officer of Health)

STATUTORY SERVICES

SOCIAL SERVICES COMMITTEE

The Social Services Committee is responsible for domiciliary services for many old people including :—

Chiropody Service

The statistics are as follows :—

Number of patients (including discharges and new patients)

	1970	1969
Elderly	10,770	9,889
Expectant mothers	11	10
Physically handicapped	171	142
School children	2,343	1,845
Total number ...	13,295	11,886
Number of treatments given, and where,		
<i>In clinics and health centres</i>		
Elderly	25,695	24,496
Handicapped	298	
Expectant mothers	12	
<i>Domiciliary visits</i>		
Elderly	12,655	10,782
Handicapped	206	
<i>Welfare Department Homes</i>		
Elderly	3,915	3,769
<i>In clinics</i>		
School children	10,560	8,415
Total treatment, all sources ...	53,341	47,462

The demand on this service continued, as in previous years, to be very heavy. The waiting time between treatments varied from 8 to 20 weeks. Eight weeks is considered to be the absolute maximum period elderly and handicapped patients should have to wait between treatments to sustain benefit, longer than this proportionally decreases any initial improvement in comfort. As all clinics had periods longer than the maximum, waiting lists had to be introduced again to keep the intervals of treatment of those actually under treatment to the minimum. It is regrettable that new patients at some clinics (e.g. Knowle Clinic) for treatment to painful feet had to wait up to six months before the first treatment. This is also true of domiciliary visiting in the heaviest loaded area, Bristol 5 postal area.

As emphasised in previous reports, a large proportion of patients are in need of protective or corrective appliances to assist in the walking function. This enables them to go the maximum period between treatment to remedy the secondary effects of poor posture and loss of muscle tone, which show as corns, blisters, bursae, or in many cases ulceration. Only marginal assistance can be provided by appliances at present, due to lack of an appliance room, though a few (two or three per week) are made in the dental laboratory at Charlotte Keel Clinic. A glance at the case loading in the above statistics clearly indicates the very real need for an appliance room, with equipment for the exclusive use of the chiropodists. A technician, trained for the purpose, could work in the laboratory to the prescriptions and instructions of the chiropodists in all the peripheral clinics, and the completed appliances returned to the appropriate clinic and patient. With more younger, physically handicapped patients expected to apply for treatment during the next year, due to the provisions of The Chronically Sick and Disabled Persons Act, this need is more urgent than ever and cannot be over-emphasised.

One full-time member of the staff resigned in 1970 due to ill-health, seriously affecting Southmead Health Centre, and a small emergency service was maintained by others reducing domiciliary visits to give one session per week each. Later, a part-time chiropodist worked five sessions per week of the ten sessions needed for a full service at this Centre, inevitably leading to some complaints about delay in treatment in this area.

Retirement Clinics

Dr. D. W. Maxa, Departmental Medical Officer, reports about St. George Health Centre.

The Retirement Clinic at St. George Health Centre continues to examine comprehensively those attaining the age of 65 years with the twin aims of the prevention of disease and difficulties where possible and the early ascertainment of medical and social needs. One tenth of those attending for the first time were considered to require review—on average, twice—in order to assess progress.

Rather less than 1 in 10 new patients were found to be fit for their age. The most common single problem continues to be significant overweight (1 in 3 females and 1 in 4 males) and the other main causes of morbidity generally show little, if any, change from the proportions previously noted. Cardiovascular disorders affected 1 in 3 patients, locomotor disorders 1 in 3 patients and genito-urinary and psychological disorders 1 in 10 patients each.

The findings are summarised below :

New Patients						Males	Females
Totals	...	...	...	...	...	54	62
Fit for their age	...	...	...	...	...	6	5
<i>Nutrition</i>							
Overweight (20% and more)	...	...	...	...	...	13	20
Underweight (10% and less)	...	...	...	...	...	1	3
Anaemia (80% and less)	...	...	...	...	...	1	3
<i>Cardiovascular Disorders</i>							
Hypertension (170/110 and more)	...	...	...	...	...	10	16
Circulatory Defects	...	...	...	...	...	1	2
Varicose Veins	...	...	...	...	...	4	6
Abnormal Electrocardiograms	...	...	...	...	...	15	17
<i>Locomotor Disorders</i>							
Arthritis	...	...	...	...	...	7	10
Minor Foot Defects	...	...	...	...	...	9	11
<i>Chronic Chest Conditions</i>	...	...	...	...	...	6	2
<i>Genito-urinary Conditions</i>	...	...	...	...	...	4	8
<i>Special Senses</i>							
Eye Defects	...	...	...	...	...	2	5
Hearing Defects	...	...	...	...	...	4	5
<i>Psychological Disorders</i>	...	...	...	...	...	3	8
<i>Referrals:</i>							
To : General Practitioner	...	...	...	...	...	8	14
Dietician	...	...	...	...	...	9	16
Chiropodist	...	...	...	...	...	7	6
Old Patients							
Totals	...	...	...	...	...	5	7
Re-attendances	...	...	...	...	...	9	13

Dr. Patricia Thomas reports about the Retirement Clinic at Corbett House :—

During 1970 a Retirement Clinic was held at Corbett House about once a fortnight—20 males and 19 females were examined and the findings were as follows :—

					<i>Males</i>	<i>Females</i>
Hypertension	...	...	...	...	2	5
Deafness	...	...	...	...	2	2
Varicose Veins	...	...	...	...	2	4
Chronic Bronchitis	...	...	...	...	1	1
Eye Defect	...	...	...	...	1	0
Cor Pulmonale	...	...	...	...	1	0
Foot Defects	...	...	...	...	1	1
Overweight	...	...	...	...	2	5
Underweight	...	...	...	...	3	1
Anaemia	...	...	...	...	0	1
Duodenal Ulcer	...	...	...	...	0	1
Osteo-arthritis	...	...	...	...	1	2
Fibrillation	...	...	...	...	1	0
Anxiety State	...	...	...	...	1	3
Ischaemia Heart Disease	...	...	...	...	1	1
Hernia	...	...	...	...	1	0

The patients with severe anaemia and with cor pulmonale have now been fully investigated and treated. Neither had attended a doctor for many years.

Home Help Service

At the end of the year there were 9 full-time and 689 part-time home helps, a decrease of 5 full-time and 2 part-time home helps as compared with the previous year.

Home helps gave 624,307 hours of help during the year of which 604,455 hours or 97 per cent were devoted to the assistance of a total of 4,450 old and chronically sick people, an increase of 51 compared with 1969.

Laundry Service

The service organised by the department whereby draw sheets and nightgowns are made available and laundered for bedfast and incontinent persons, continued during the year. A smaller number of persons used the service as compared with recent years. The manual workers' strike for a period of five weeks in the latter part of the year meant that transport and laundry services were not available and as a result there was a considerable cut back in the service.

Details of the service were as follows :—

Number of visits	...	16,828
Articles laundered	...	40,652
Mileage	...	16,442

The number of persons for whom the service was provided was 495. Of these, 182 patients were transferred from 1969. In addition sheets and gowns were issued on temporary loan to 56 patients, but laundry facilities were not required.

The laundry service which had been operated by the Bristol Old People's Welfare (Voluntary) Limited for some years, was discontinued, and a final payment of £100 was paid towards the cost of that service.

HOUSING COMMITTEE

(a) *Pre-War Estates*

During the year a further three houses were converted to make six flats, making a total to date of 153 conversions providing 306 units of accommodation.

(b) *Post-War Programme*

By 31st December 1970, 4,664 one-bedroom and bedsitting-room units had been completed. The units completed during 1970 were distributed as follows :—

Brislington	...	35
Hengrove	...	13
Fishponds	...	10
Lockleaze	...	15
Knowle	...	5

78

These dwellings, with the exception of 9 units at Brislington, were purpose-built elderly persons' dwellings, representing 88·5% of the total of 78. There are 269 bedsitting-room and one bedroom units of accommodation under construction, of which 167 (62·1%) are specifically for elderly persons.

(c) *Proportion of Small Units of Accommodation*

	<i>1B/BSR</i>	<i>Total No.</i>	<i>%</i>
Pre-War and Post-War	5,238	44,241	11·8
Post-War	4,664	29,357	15·9
Contracts scheduled for completion in 1971 ...	269	674	39·9
Projected totals as at 31.12.71 (Post-War) ...	4,933	30,031	16·4
Contracts scheduled to commence in 1971 ...	303	539	56·2

VOLUNTARY SERVICES

BRISTOL OLD PEOPLE'S WELFARE INCORPORATED

This voluntary body, which receives a grant from the City Council, provides the following services :—

Accommodation

"Anchor House", 14 Eaton Crescent, BS8 2EJ in conjunction with the Anchor Society—11 unfurnished flatlets for able-bodied elderly people, with sitting-room and dining-room; lift; central heating, launderette. Mid-day meal provided.

"Beverley Cottage", 41 The Esplanade, Burnham-on-Sea—a holiday rest home for 30 frail elderly people. Open all the year.

"Cote", Cote Drive, Westbury-on-Trym, BS9 3UR—21 unfurnished flatlets and guest room for able bodied elderly people in higher income group; with sitting-room and dining-room; lift; central heating; launderette. Mid-day meal provided.

"Cote Paddock", Parry's Lane, Westbury-on-Trym, BS9 1AP—16 unfurnished flats for able-bodied elderly people.

"Cowlin House Rest Home", 26–28 Pembroke Road, BS8 3BB. Accommodation for 29 frail elderly people—17 single rooms, 6 double rooms. Trained nurse in charge. Full board; central heating; lift; with sitting-room, T.V. room and dining-room.

"Dulverton House Rest Home", 11 Eaton Crescent, BS8 3EJ. Accommodation for 24 frail women—20 single rooms, 2 double rooms. Trained nurse in charge. Full board; central heating; lift, with sitting-room, dining-room and T.V. room.

"Elin Cottages", Shelley Avenue, Clevedon. 4 bungalows for elderly people, suitable for married couples.

"Hanbury Court", Hanbury Road, Clifton—14 self-contained flats—bedsitting room, one bedroom and two bedrooms with own kitchens and bathrooms, etc. Emergency call system to "Cowlin House". Launderette; central heating.

Lilac Close, Greystoke Avenue, Westbury-on-Trym (Bristol Flower Fund Homes). 5 self-contained flats.

Mendip group—148 self-contained flats on 4 sites, i.e.

Eglin Croft, Vowell Close, Hartcliffe, BS13 9JA.

Lea Croft, Molesworth Drive, Withywood, BS13 9BX.

Longmead Croft, Bearbridge Road, Hartcliffe, BS13 8SG.

Spinney Croft, Riverland Drive, Bishopsworth, BS13 8PF.

with day room, launderette, central heating and warden service on each.

"New Cote Rest Home", Cote House Lane, Westbury-on-Trym, BS9 3UW. Accommodation for 16 frail elderly people. Trained nurse in charge. Full board; central heating; sitting-room; dining-room; television, etc.

"Rowan Court", Morley Street, Barton Hill, BS5 9LZ—48 self-contained flats with day room, launderette and warden service; central heating; lifts.

"Stockwood"—150 self-contained flats on three sites, i.e.

Chestnut Close, Pynne Road, BS14 8QL.

Linden Close, Cornish Walk, BS14 8JG.

Maple Close, Stockwood Road, BS14 8HY.

with day room, launderette, central heating and warden service on each.

"Stratheden", 6-8 Eaton Crescent, BS8 3EJ—27 unfurnished flatlets for able-bodied elderly people, with sitting-room and dining-room; lift; central heating, launderette and warden service. Mid-day meal.

Day Centres

Day Centres for elderly people normally housebound are held twice weekly at Linden Close, Stockwood, covering Knowle, Whitchurch, Stockwood and Brislington, and at Rowan Court, Barton Hill, covering Eastville and St. George; also one day a week at Worcester Court, 3 Worcester Road, Clifton.

The elderly people are collected from their homes by mini-bus and private cars about 10.30 a.m. In addition to morning coffee and afternoon tea, mid-day meals are provided by the voluntary workers. Activities include craftwork, games, community singing and entertainment. The charge is 17½p (3s. 6d.) per day.

Holidays

Convalescent holidays subsidised where possible from voluntary funds if necessary, are arranged for infirm old people.

Approximately 900 elderly people are sent to "Beverley Cottage" each year and 1,500 able bodied elderly people are escorted on holidays in seaside hotels and guest houses during the spring and autumn. Coach outings are arranged in the spring.

Mobile Library

Over 50 volunteers take books to elderly people in their own homes. The Association has a large stock of books including an excellent supply of large print books. A charge of 1p (2d) a week is made towards transport costs.

Miscellaneous Services

Some assistance with wireless and television for the housebound; advisory service; comforts fund; occasional distribution of fruit, flowers, etc.

CARE OF HANDICAPPED PEOPLE (ADULTS)

Local Authority Services

Report of the Senior Medical Social Worker, Marion Moncaster

CASEWORK SERVICES

Over the past year the pattern of work has gradually changed and this has been due, in part, to the widening range of social security benefits which enables many more families to survive the crisis of shorter term illnesses. The proportion of those requiring help in long term illness is tending to increase and is particularly necessary for families in which one member is suffering from incurable malignant disease. Long term supportive help is given to this group to enable relatives to cope with their own emotional distress and the physical drain of nursing a sick person while, at the same time, maintaining the normal functioning of the home and family. Close co-operation between general practitioner, nursing and social work staff, with judicious use of voluntary resources such as the National Society for Cancer Relief and the Marie Curie Foundation, provides valuable support to the sick person and those who are close to him.

Longer term work is also required with people with chronic and deteriorating illness to prevent family breakdown and to ameliorate the worst effects of loss of status and social isolation.

The employment and occupation of partially and severely disabled men continues to be a problem, and one which is unlikely to diminish with the increase in automation and an increase in the general level of unemployment. Voluntary associations such as the Council for Disabled Adults and the Industrial Therapy Organisation are active in this sphere, but progress in the provision of sheltered conditions for disabled workers is largely lacking in the industrial field, and provision of government sponsored factories very limited, and it will be some time before local authorities can develop schemes in partnership with industry and commerce or themselves supply additional facilities to meet the demand. Some of these considerations are highlighted in the following reports on particular aspects of the work.

AFTER-CARE OF PATIENTS DISCHARGED FROM GENERAL HOSPITALS

With the appointment of a Medical Social Worker with Chest Clinic responsibilities it has been possible to divide the work of after-care, and to cover the four months' absence of the Senior Medical Social Worker on a course for senior social workers at the National Institute for Social Work Training. Figures for cases referred to the new worker are incorporated into the report on Chest Clinic social work.

Forty-four patients with complicated medico-social problems were given case-work help by the Senior Medical Social Worker. In a high proportion of these cases there were serious problems of deprivation and loss because most had a very short expectation of life. The majority were facing a major adjustment to their social lives because of the development of chronic illness, and in most instances the process of adjustment was made more difficult either because of family stresses or because of the basic personality problems of the individual patients.

Details of the conditions and ages of patients referred for after-care are given below :—

<i>Medical conditions</i>	<i>Age range</i>
1 Anxiety state	1 10—19
1 Aortic aneurysm	— 20—29
1 Carcinoma breast	4 30—39
2 Carcinoma bronchus	6 40—49
1 Carcinoma cervix	9 50—59
5 Carcinoma colon	16 60—69
1 Carcinoma oesophagus	8 70—79
2 Carcinoma prostate	
1 Carcinoma rectum	
4 Cardiovascular	
1 Cerebral angioma	
2 Cerebral haemorrhage	
1 Cerebral injury	
3 Chronic bronchitis	
3 Congenital abnormality	
1 Disseminated sclerosis	
2 Glaucoma	
2 Hiatus hernia	
1 Lupus erythematosus	
2 Motor neurone disease	
1 Myopic degeneration	
1 Osteo-arthritis	
4 Rheumatoid arthritis	
1 Ulcerative colitis	

CHEST CLINIC SOCIAL WORK

Two social workers assisted by a social work trainee covered the Out-Patient Clinic sessions. Referrals to the social workers were made by the Consultant Chest Physicians, the Sister and Nursing Staff and by the relatives of patients themselves. Those patients with pulmonary tuberculosis who needed hospital treatment were followed up in Ham Green Hospital by the Chest Clinic social workers. Other patients requiring in-patient treatment were referred to Medical Social Workers at Bristol hospitals where necessary.

The number of patients suffering from tuberculosis referred to the social workers has remained fairly constant throughout the year. It has been noticed, however, that the recurring problem of the vagrant has continued to present major difficulties. Accommodation has been increasingly hard to find particularly for this type of patient, who often has severe personality problems as well as being socially inadequate. Many of these patients have spent years wandering from town to town. They often spend considerable periods of time in prison and nearly all of them have a drinking problem. Treatment of their tuberculosis is made very difficult due to their reluctance to remain in Bristol long enough to complete a full course of chemotherapy. The other major problem relating to the vagrant is that of finance. These men rely on Social Security benefits which can only be obtained when proof of an accommodating address is produced.

Accommodation and finance are thus found to be inter-relating and the social workers feel that a half-way hostel providing temporary care between hospitals and the community might provide a partial solution to this problem.

The number of referrals of patients suffering from other chest conditions dropped noticeably during the year. However, the majority of cases in the category referred to the social workers required continuous supportive casework help. The reduction in figures has occurred amongst those referrals classified as minor services. These patients are referred for help with practical problems usually related to housing applications or social security benefits. In this connection the Chest Clinic social workers have found their main use to be that of a co-ordinator, linking clients with the appropriate social services. Below is a classified table of patients seen by social workers from January, 1970 to December, 1970 :—

JANUARY 1970—DECEMBER 1970

<i>Casework—new referrals</i>				<i>Minor Services—new referrals</i>			
Tuberculosis	...	...	48	Tuberculosis	...	...	58
Bronchitis	...	...	28	Bronchitis	...	...	26
Carcinoma Lung	...	...	11	Carcinoma Lung	...	...	7
Other (*)	...	...	20	Other (*)	...	...	10
				Casual callers	...	...	47
<i>Casework—follow up from 1969</i>				<i>Minor Services—follow up from 1969</i>			
Tuberculosis	...	...	12	Tuberculosis	...	...	4
Bronchitis	...	...	9	Bronchitis	...	...	6
Carcinoma Lung	...	...	1				
Other (*)	...	...	6				
(*) Emphysema, pneumoconiosis, asthma, pneumonia, bronchiectasis, pleurisy.							
Total number of patients seen by social workers				...	293		
<i>Casework with non-chest clinic patients referred from General Hospitals, general practitioners and health visitors.</i>							
Cardiac patients	...	...	10	Spasticity	...	...	1
Carcinoma	...	...	9	Depression	...	...	9
Disseminated Sclerosis	...	...	3	Anxiety Neurosis	...	...	4
Muscular Dystrophy	...	...	2	Cerebral Palsy	...	...	2
Hemiplegia	...	...	1	Colostomy	...	...	3
Paraplegia	...	...	2	Huntington's Chorea	...	...	2
Rheumatoid Arthritis	...	...	2	Schizophrenia	...	...	1
							Total
							51

In addition to their other duties, during the year the Chest Clinic social workers also offered supportive casework to patients referred by general practitioners and health visitors, as can be seen from the table above.

This increased the work of the social workers in the community, as most of these clients, by nature of their varying disabilities, required intensive help in their own homes. Referrals were also accepted from medical social workers at Bristol hospitals of patients requiring social work help following their discharge, and one of the social workers now acts as a liaison officer between two of these hospitals.

1970 was thus a year of expansion for the Chest Clinic social workers. Plans were made for a further extension of medical social work into the community. It is envisaged that the two social workers will commence part-time sessions with the general practitioners at St. George and Southmead Health Centres early in the new year.

OCCUPATIONAL HEALTH

The social worker dealt with 93 cases during the year, 46 new ones and 47 carried forward from previous years, and the senior medical social worker dealt with 4 new cases.

Given below are tables showing details of referrals, types of problems, and the employing departments concerned in new cases :—

Referrals						S.W.	S.M.S.W.	Total
1. Medical staff in Occupational Health Department ...						35	—	
2. Employer ...	...	...	...	...	...	7	4	
3. Self (a) via card ...	...	...	...	...	...	1	—	
(b) already known ...	...	...	...	...	...	1	—	
4. Other social worker ...	...	...	...	...	...	1	—	
5. D.R.O. ...	...	...	...	...	...	1	—	
6. Relative ...	...	...	...	...	...	—	—
7. Other employee ...	...	...	...	...	...	—	—
						46	4	50

Type of Problem

1. Failure to function effectively at work because of personality or psychological difficulties ...	...	...	...	...	...	2	—	
2. Adjustment to early and inevitable retirement ...	...	...	...	...	...	20	—	
3. Adjustment to disability while still working ...	...	...	...	...	...	3	—	
4. Resettlement in work outside the Corporation ...	...	...	...	...	...	8	—	
5. Resettlement in work inside the Corporation ...	...	...	...	...	...	3	1	
6. Financial ...	...	...	...	...	...	—	—
7. Need for support to one partner of married couple during sickness or after decease of the other ...	...	...	...	...	...	—	1	
8. Housing and accommodation ...	...	...	...	...	...	4	—	
9. Personal ...	...	...	...	...	...	—	2	
10. Support to employee and family when former off sick	...	...	...	...	...	2	—	
11. Employee struggling to keep on at work while caring for sick relative ...	...	...	...	...	...	4	—	
						46	4	50

Departments

City Engineer ...	...	...	...	...	...	25	1	
Education ...	...	...	...	...	...	6	1	
Health and Social Services ...	...	...	...	...	...	3	2	
Housing ...	...	...	...	...	...	9	—	
Museum ...	...	...	...	...	...	1	—	
P.B.A. ...	...	...	...	...	...	2	—	
						46	4	50

The type of problem listed is in some cases only one of several needing attention by the same person or family.

There was a considerable increase of referrals from the Principal Medical Officer for Occupation Health, and a proportionately high reduction in self referrals. Cases referred by the Principal Medical Officer for Occupational Health were mainly in relation to :—

(a) Rehabilitation and Resettlement.

(b) Early and inevitable retirement on grounds of ill-health.

As part of the rehabilitation process use is made of the services provided by the Department of Employment and Productivity for courses at the Industrial Rehabilitation Unit, and this year three men were accepted for these courses. During this year for the first time an employee was considered suitable for onward referral from the Industrial Rehabilitation Unit to a Vocational Training Centre, where he took a six months' course. The Departments concerned were most co-operative in all three cases, and agreed to retain the men on the Establishment while attending the Industrial Rehabilitation Unit, and in one case the man had his training allowance made up to his normal rate of pay. This indicates that it is becoming acceptable to senior staff of Departments that rehabilitation at the Industrial Rehabilitation Unit can play a useful part in the resettlement of a disabled man in a more suitable job, and that they are willing to retain personnel during this assessment period with a view to considering job prospects afterwards within the Corporation.

The aim of the work in connection with adjustment to early and inevitable retirement has been to help the man, and if married his wife, to live as full a life as possible in spite of disability and sickness. The considerable drop in income having to be faced in nearly every case on retirement is a recurring problem, and the social workers always ensure that these families receive any Supplementary Benefit to which they may be entitled from the Department of Health and Social Security. Social workers found that in many cases the strain on the wife of having a sick husband can sometimes be unbearable, and every effort is made to give the wife a chance to verbalise her feelings of distress and sometimes resentment privately, as this ventilation of real feelings can lead to a better acceptance of the situation. In helping retired employees to live as full a life as possible one of the social workers often utilises the services provided by the Bristol Council for Disabled Adults, by which visitors take work of varying degrees of complexity to the home. Some of this work is done for firms and some of it is concerned with the making of articles for sale in the Society's shop. A few shillings per week are earned and never, of course, more than the £2 per week which can be disregarded by the Department of Health and Social Security. Much pleasure was gained by the men and in some cases their wives also in doing this work. One man in particular was extremely pleased with the few shillings he earned by steaming off used stamps and packaging them in cellophane envelopes, and with the money thus earned he managed to buy some curtains, which he calls his "stamp" curtains. The social worker wishes to record here an appreciation of the work of this Society. Attendance at Day Centres, both statutory and voluntary, has proved invaluable in several cases, especially where there was also a loneliness problem.

The Principal Medical Officer for Occupational Health frequently diagnosed social problems as well as work problems associated with sickness and disablement, and referred these cases to the social worker. One man who had had a stroke was extremely depressed, and convalescence was arranged, which helped him to overcome his depression. Another man with only one arm had a wife who had just been discharged from hospital after treatment for a fractured thigh. As well as appreciating the interest being taken in them, they were pleased that the social worker was able to help them with many worries, about slipping in the bath, about not having heard any more about convalescence, which had been suggested by the hospital, and also about the financial situation.

Much more routine visiting was carried out this year than in previous years, and in the case of persons having to accept early retirement, monthly visits were made normally for a period of three months, the frequency of visiting after this being lengthened or occasionally shortened according to need. This regular care is much appreciated, and problems are brought forth during these routine visits about which the person would probably never have written a special letter.

Help in cases carried forward from previous years varied in intensity from case-work to the giving of ameliorative assistance such as a caravan holiday and a Christmas voucher from the Voluntary Care Committee. In two cases the social worker by co-operation with the general practitioner was able to cause a fresh look to be made at the health problem, and in one of these cases which related to the wife a new course of treatment was tried successfully, while in the other treatment which had lapsed was recommenced. In a third case where the relationship of the family with the general practitioner was poor, the social worker liaised with the health visitor, who succeeded in establishing a happier relationship so that the wife agreed to be examined and later received successful operative treatment.

SPECIAL TREATMENT CLINIC SOCIAL WORK

Mrs. Josephine Merchant

In view of the world-wide increase in the incidence of venereal disease it would not be realistic to expect a reduction in the number of cases seen at Bristol Clinics. Indeed there would be cause for alarm if our figures were running against the national trend, as it would simply mean that for some reason patients were not coming forward. Obviously as we cannot contain the problem within our boundaries we cannot eradicate it in this city, we can, however, do our utmost to reach the people who are likely to be infected and by various means persuade and encourage them to seek advice. We can also endeavour to discover the reasons for the increase and contribute to efforts to find solutions.

This work was set back by the fact that we were once more reduced to one social worker for the latter half of 1970. The social worker appointed in September 1969 resigned after her marriage in the summer of 1970, and a replacement was not available until January 1971, when Mr. V. A. Dunn commenced duties.

Examination of the records for the past fifteen years reveals that every year prostitutes are forming a smaller and smaller proportion of the total number of women treated. Venereal diseases are spreading not because of prostitution but because of promiscuity. The promiscuous often infect the innocent and all these people have their differing problems.

The important factor in assessing the efficacy of contact tracing is the ratio of men to women treated. As the majority of infected women are asymptomatic the normal pattern is that the men present for treatment and through them contacts are identified and asked to attend for investigation. A high number of men against a low number of women would show us that there existed an uncovered reservoir of infection formed by undiagnosed women. The total number of men includes a proportion of male homosexuals. In Bristol in 1970 the ratio of men to women was 1.2 : 1. This compares most favourably with other towns and cities of comparable size.

There is however no room for complacency and whilst maintaining the existing system new methods of disseminating information and of discovering and approaching contacts are being tried.

The Telephone Answering Service is undoubtedly forming a useful educative function. The notices giving factual information which the Health Education Department have successfully and widely distributed, are aiding people who wish to know the location and times of clinics. Television, radio and newspaper interviews have been given by doctors and the social workers.

The usual talks to medical and nursing students have been extended and many other groups have been given talks, films and study sessions, these include youth club leaders, teachers, social workers, parents' associations and school children.

The intention is to inform, to reassure and encourage those who may be reluctant to seek medical advice and, by counselling, to discourage those who might otherwise take chances and become infected.

Preventive work is also being attempted by close association with high risk groups and by casework with individuals.

One of the social workers was able to contribute to one very positive venture to help some of the girls who are at risk, not only of contracting venereal disease but also of being embroiled in prostitution. Sometimes this involves a long struggle to help a girl develop a sense of the value of her own person, sometimes little can be done, but occasionally it is a matter of catching a girl when she first runs away from home and guiding her away from potentially damaging influences. Acting in voluntary capacities a group of interested people have opened a house in St. Paul's as a Day Centre with some overnight accommodation, plans are already in hand to develop the project as a hostel.

The realisation that clinic staff are really interested in them as persons and will give voluntary time to them has made many of these girls much more co-operative and is definitely helping the work of contact tracing and completion of treatment. Valuable links have also been forged between the clinic and other workers.

Ways are being sought to work with other groups. For example a nucleus of responsible and thoughtful homosexuals have asked for co-operation in their efforts to introduce a more educative programme at their social club. Aware of the high risk to health, particularly of syphilis, they wish to persuade others to attend for regular checks.

These and other suggestions will be given careful consideration, and with two social workers attempting serious preventive work we hope to contribute to an improvement in the local situation in 1971.

WELFARE SERVICES

R. C. Travill, LL.B., D.P.A.

(Principal Welfare Services Officer)

With the passing of the Local Authority Social Services Act 1970 and the setting up of the new Social Services Committee and Department under its Director of Social Services (Mr. D. F. A. Kiddle, M.A.) from 1st January 1971 this is both the 3rd and last occasion on which a section of this nature will form part of the Annual Report of the M.O.H. The three years for which the former Welfare Services have been linked with the M.O.H. have been happy ones enabling relationships to be fostered which auger well for the new Social Services.

Knowing the extent to which the Annual Report of the M.O.H. is used by Members as a book of reference no apology is made for making this contribution in many ways a repetition (in form at least) of the main headings of services and I trust that the information which follows will prove both interesting and useful.

(a) Residential Accommodation

The provision of residential care and attention for the elderly is a task for which there is likely to be a continuing and increasing demand owing to the ageing population many of whom are without adequate family support. Moreover admission to hospital in old age is tending to be increasingly 'admission for treatment' rather than long-term care, yet advances in medicine are enabling people to live longer. These facts add to the problems of providing residential accommodation as the majority of residents are now particularly frail and need a great deal of attention from staff. This necessitates not only more adequate staffing ratios but also careful regard to the suitability of some of the older premises. The new purpose built Homes for elderly people are able to provide this care and attention in conducive surroundings for in these Homes most residents are able to have their own single bedroom, although double bedrooms are of course available for married couples or friends wishing to share.

The notable event of 1970 in the field of residential accommodation in Bristol was the final closure of 100 Fishponds Road. This Home had become outdated yet there were bound to be feelings of nostalgia at its final closure for over many years it had played a most valuable part in the City's services.

The year 1970 saw the opening of the new Home "Greystoke" (Southmead) which finally permitted the closure of 100 Fishponds Road. It also saw building work well in hand of the new Homes "Coombe" (Westbury-on-Trym) 36 beds and "Wainbrook" (Barton Hill) 58 beds. Plans were taken to tender stage of the next new Home at St. Paul's, 58 beds and preliminary plans were prepared in respect of a new Home for the younger physically handicapped which it is intended to build at Lockleaze.

At the end of 1970 Homes provided by the Committee were as follows:

Meadowsweet (Fishponds)	...	...	192 beds
119 Pembroke Road (Clifton)	...	...	20 "
5 All Saints Road (Clifton)	...	...	17 "
9 Priory Road (Clifton)	...	...	20 "
"Rossholme" (Redland Road)	...	...	22 "
St. Peter's (Bishopthorpe Road)	...	...	45 "
Gleeson House (Fishponds)	...	...	45 "
"Hollybrook" (Hartcliffe)	...	...	54 "
"Hazelbrook" (Henbury)	...	...	52 "
"Rushlands" (Lawrence Weston)	...	...	54 "
"Broomhill" (Brislington)	...	...	53 "
"Elm Hays" (Highridge)	...	...	59 "
"Woodcroft" (Inns Court)	...	...	60 "
"Bow Mead" (Stockwood)	56 "
"Westleigh" (St. George)	59 "
"Hayleigh" (Bedminster)	56 "
"Greystoke" (Southmead)	58 "

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Residents contribute towards the cost of their maintenance according to their means, the basis of assessment being set out in the Ministry of Social Security Act 1966. The full standard

charge per resident is now £13.14s.2d. (£13.71) per week and the minimum payment is £4 per week. Approximately 30% of the residents are contributing more than this minimum charge.

In determining a person's ability to pay it is necessary to ensure that all residents have at least £1 per week for personal expenses, whilst certain residents may be able to retain up to a further £1 per week or even a further £2 per week where disablement pensions are involved.

The Committee also register private and voluntary homes for the elderly and disabled in the City and in this way safeguards are ensured for those elderly people wishing to make private arrangements for their accommodation.

The Committee were in fact financially responsible for 107 aged or disabled persons in homes provided by voluntary bodies or other local authorities.

(b) Elderly Persons Dwellings

Although these dwellings are not provided directly by the Social Services Committee they play such an important part in the provision of services for the elderly in the City that no report would be complete without reference to these. Many elderly people who formerly would have needed to enter a residential home are by elderly persons' dwellings enabled to continue to live in their own home as most would prefer. The Social Services Committee co-operate both with the Housing Committee and the voluntary organisations in this field of work. With Housing Committee developments they share in both design (particularly as to welfare amenities such as common room, call system etc.) and the selection of tenants. The Social Services Committee also appoint wardens who in effect act as a paid friendly neighbour at the larger groups of Housing Committee E.P.D.'s. With regard to such dwellings provided by voluntary organisations the Committee make welfare grants to enable these organisations both to incorporate particular facilities needed by the elderly and to appoint wardens.

At the end of 1970 there were over 750 such dwellings provided by the Housing Committee and over 400 provided by voluntary organisations with a number of other schemes either under construction or planned by both the local authority and voluntary organisations.

(c) Temporary Accommodation

The year 1970 saw the replacement of the facility previously made at 100 Fishponds Road by adapted premises at 19 Mina Road where there are six self contained units. Families feed themselves and are charged 9/- (45p), 10/- (50p) and 11/- (55p) per night according to whether a 1, 2 or 3 bedroom unit is occupied.

Temporary Accommodation of this nature must be temporary in the strict sense of that word and is often a last resort. The Committee are aware of the preventive work which has been undertaken by both the Housing and Children's Committees to encourage families to avoid eviction but many of the problems encountered however arise from domestic difficulties as much as from actual eviction.

(d) Services for the Handicapped

An important enactment of 1970 was the Chronically Sick & Disabled Persons Act but although complacency must be avoided Bristol's services for the handicapped were already far reaching as the following details indicate.

(i) Physically Handicapped

The Committee continue to assist persons living in their own homes by the provision of such adaptations as hand rails, ramps and other aids and this is an important contribution to individual independence of those with restricted mobility.

A number of voluntary organisations working in the field of handicapped are provided with transport and other assistance by the Committee.

Severely disabled drivers are assisted by the issue of car badges which serve as a ready means of identification to the Police and Traffic Wardens and special second badges entailing the reservation of a particular parking meter or other parking space are also now available in appropriate cases to the very severely handicapped in employment in a Controlled Zone.

The most noteworthy of the Committee's activities for the physically handicapped continues to be the Pastime Centre at Lockleaze which is attended by about 150 persons daily for varying numbers of days per week (some 450 persons in all). Although primarily for recreational purposes, handicrafts and special activities are available at this centre as are bathing, launderette and hair-dressing facilities. All of these do much to boost the morale of these physically handicapped

people. Owing to pressure on this Centre plans have been finalised in 1970 for a second such Centre at Inns Court which should commence in 1971.

(ii) Deaf and Hard of Hearing

For this particularly isolated group the Committee continue to use the Bristol Institute for the Deaf as their agents and have continued to second social work staff to work from the Institute premises amongst deaf and hard of hearing. At the end of 1970 there were 468 deaf and 304 hard of hearing persons registered.

(iii) Blind and Partially Sighted

At the end of 1970 1,024 blind persons and 197 partially sighted persons were registered in the City. One of the most noteworthy features over recent years has been the increasing age of this group of handicapped and of the above figures 784 were over the age of 65 years. During 1970 112 persons were registered as blind and 37 as partially sighted. Of these 120 were over the age of 65 years.

Services for the blind and partially sighted are provided by the Home Teachers for the Blind who offer such services as handicrafts, teaching of Braille and Moon, organising holidays, outings, arrangements for talking books and other aids to independence. Special facilities are available for those who suffer the dual handicap of both deafness and lack of sight. Free bus travel is provided for registered blind able to make use of this facility.

*(iv) Sheltered Employment
Physically Handicapped*

The Committee assist by grant the Home Workers Scheme of the Bristol Council for the Disabled and also the Spastics Association Work Centre at Dovercourt Road. The Bristol Council for the Disabled also operate a work centre in the grounds of the Pastime Centre at Lockleaze in a building provided for their use by the Committee.

Blind and Partially Sighted Persons

Sheltered workshop facilities are provided for blind men and women unable to work in open industry by the Bristol Royal School and Workshops for the Blind as agents for the Committee. It has also been possible to integrate within this workshop a small number of physically handicapped sighted persons. Various trades are provided, both of the traditional type (e.g. mat and basket making) and light engineering and shrink wrapping.

For those persons capable of employment on their own account the voluntary body also operate a Home Workers Scheme on behalf of the Committee.

(e) Domiciliary Services for Elderly People

(i) Clubs for Elderly People

Although not directly provided by the Committee the Clubs for elderly people provided by the Bristol Association for Elderly People supply a most useful service for the elderly. These clubs provide excellent opportunities for elderly people to be socially active at very little cost. The clubs are open daily apart from Sundays from about 2 p.m.—9.30 p.m. and it is the members themselves who control their day to day activity through their own officers and committees.

The officers of the Department continue to play an extensive part in the affairs of the Association and are as anxious to see this field of the work progress as those aspects of social work which are directly provided by the Committee:

The clubs are situated at:

Collin Street, Avonmouth
112 Avonvale Road, Redfield
Denmark Place, Gloucester Road, Bishopston
Wick Road, Brislington
Myrtle Street, Bedminster
100 Fishponds Road, Eastville
Beechwood Road, Fishponds
Machin Road, Henbury
Redcatch Road, Knowle
Ronney Avenue, Lockleaze
Burlington Road, Redland
Recreation Ground, Sea Mills

Greystoke Avenue, Southmead
The Tithe Barn, High Street, Shirehampton
Summerhill Road, St. George
Craydon Walk, Stockwood
Broadoaks Road, Withywood
In 1970 an eighteenth club was planned for provision at Ruthven Road.

(ii) Visiting of lonely people

This service which came under the direct control of the Committee in 1969 when the Liaison Officer Service formerly supported by grant to the Bristol Old People's Welfare Incorporated was integrated within the Department, continued to expand in 1970 with increased co-operation between statutory and voluntary services. The value of the volunteer cannot be too highly regarded for it would be impossible for all of this type of work to be performed by paid staff and the Liaison Officer in effect acts as a 'go between' between those persons needing a service and those wishing to offer one.

(iii) Meals Service

The value of this service cannot be too highly stressed for it at least ensures for a great number of people the high quality cooked meal which they probably would not be able to provide for themselves. The greater part of the city is now covered by the Committee's own staff for delivery purposes, but co-operation continues with Bristol Old People's Welfare Incorporated and with the W.R.V.S. for certain areas of the city. Most meals provided now are of the Top Tray frozen food variety supplied from the Committee's own kitchen at Bedminster and the Avonmouth kitchen of the Public Works Committee, although a number of traditional meals are still provided from industrial canteens. This dual standard of meals served will cease when the additional kitchen now under construction at Barton Hill becomes available in 1971. During 1970 337,500 meals were distributed and at the end of that year 1,692 persons were in receipt of meals. The meals service is available on 5 days per week and the charge now made to recipients is 2/5d (12p) per meal. The Luncheon Club provided at the University Settlement, Barton Hill also continues to be financially assisted by the Committee.

(f) Other Services

Other important services provided in the welfare field though by no means as spectacular are the care of moveable property of a person admitted to a home or hospital when no other arrangements are possible and the burial or cremation of persons dying in the city where no other arrangements are being made.

CONCLUSION

As was mentioned at the beginning of this section "welfare services" as have been provided and extended since 1948 will, in common with other matters mentioned elsewhere in the M.O.H.'s Report and the Children's Services, fall to a new Social Services Committee from 1st January 1971. By the time this report is published that new organisation will have taken shape but I would like to take this final opportunity of expressing my sincere appreciation to the former Social Services Committee (and its predecessor the former Welfare Services Committee), to the M.O.H. (whose ready co-operation will be no less important in the future than in the past) and to my own staff for all the help and support which has always been forthcoming.

OCCUPATIONAL HEALTH SERVICE

E. P. Hamblett

Principal Medical Officer (Occupational Health)

INTRODUCTION

The establishment of the section consisted of a principal medical officer and the equivalent of one full time departmental medical officer (in sessions spent entirely on pre-employment and periodic medical examinations), a social worker, a secretary, and two clerical officers. In addition during the year the section had the services, part time, of the Training Officer (Health Education) in connection with first aid and safety training. From June to October a full time departmental medical officer was assigned to duties with the section.

The services of the Medical Adviser to an industrial corporation was available for the equivalent of one consultant session a week to advise on occupational health matters. Advice was also available on request from the Consultant in Social Psychiatry to the Social Services Committee. From time to time technical advice and help was received from other Corporation departments.

From June the Occupational Health Service took over medical responsibility for the Fire Brigade—and has also continued to give medical advice to the Bristol Royal Workshops for the Blind, and carry out periodic examinations of some of their employees.

MEDICAL EXAMINATIONS

(a) *Pre-employment and periodic examinations*

A total of 3,735 examinations fell into this category—these included a number in respect of persons not employed by the Corporation—e.g. 73 employed by the Bristol Waterworks Company.

The breakdown of the examinations by departments will be found in Table 1 (below).

<i>Table 1</i>	<i>Department</i>	<i>Number</i>
	Health	411
	School Meals	588
	Other Authorities	45
	Airport	14
	City Treasury	37
	Town Clerks	19
	Waterworks	73
	Education	1,477
	City Engineers	281
	Fire Brigade	59
	Constabulary	89
	Housing	23
	City Valuer	11
	Welfare Services	185
	City Architects	31
	Baths	15
	Public Relations	5
	Crematorium and Cemeteries	3
	Probation	2
	Entertainments	4
	Magistrates Court	—
	Ashley House Hostel	3
	S.W. Examination Board	4
	Reg. Council for Further Education	1
	Weights and Measures	1
	Museum and Art Gallery	9
	Printing and Stationery	2
	Port of Bristol	67
	Libraries	6
	Bristol Pilotage	5
	Children's	166
	Establishment	99
		<hr/> 3,735 <hr/>

(b) Special Examinations

During the year 483 employees were seen because of work-related health problems. The majority of these were at the request of the employee's department, but included a small number at the employee's own request.

(c) Claims against the Corporation

Where claims were brought against the Corporation because of injury etc. the section arranged for Consultant examinations to be done and the reports obtained forwarded to the Town Clerk. The number of examinations during the year arranged was 56.

(d) Periodic examinations

Several groups of employees are examined periodically and during the year these have included: School Crossing Patrols who are examined at 5 yearly intervals under the age of 65 years, and yearly thereafter; School Meals Staff who are examined at intervals of between one and two years.

Certain employees at particular risk are also examined regularly. These include persons who come into significant contact with lubricating and cutting oils—examined at six monthly intervals on account of the (small) risk of malignant skin changes occurring (Workers at Bristol Royal Workshops for the Blind are included). Yearly vision tests are carried out on Airport Fire Service Staff.

SCREENING EXAMINATIONS

Mammography and cervical cytology examinations have continued during the year. With regard to mammography, repeat examinations are now being carried out on persons who had an original mammogram done two years before.

There has been no extension of multiple screening and at the end of the year no programme of multiple screening of Corporation employees is yet foreseen.

FIRST AID TRAINING

The Training Officer (Health Education) has been available part-time to the Section in connection with first aid training of Corporation employees.

The aim has been to extend the number of employees who have a knowledge of basic first aid resuscitation, and the immediate first aid of burns and poisoning. Regard has been had to the probable needs and the likely hazards encountered by the employees during their work. For example every effort has been made to train Baths Department employees in first aid in cases of drowning.

In addition to isolated lecture/demonstrations on artificial respiration (and in some instances external cardiac massage), there have been full first aid courses followed by a St. John Ambulance or Red Cross First Aid examination.

As there appeared to be a need for a more concentrated full first aid course—a four day full time (two consecutive days in each of two weeks) course was run with the help and co-operation of the Housing Department Safety and Welfare Officer. This proved to be popular and further courses are planned.

A register of all first aiders employed in the Corporation is being prepared on a voluntary basis. This is proving necessary to facilitate planning for refresher courses to ensure that first aiders are kept up to date and hold valid certificates.

SAFETY IN THE CORPORATION

At the request of the Occupational Health Committee an investigation has been under way during the year throughout all Corporation Departments into current safety procedures with a view to suggesting improvement where applicable.

The investigation is proceeding with the help of a Working Party from the Safety Officers Liaison Meeting, and at the end of the year the report is almost complete and will be presented to the Occupational Health Committee at its first meeting in 1971.

The Safety Officers Liaison Meeting—chaired by the Principal Medical Officer (Occupational Health) has continued to meet during the year; of particular interest in these meetings has been accident reporting, recording, and investigation with a view to prevention.

SICKNESS ABSENCE

A start has been made at the end of the year into the investigation of sickness absence in the Corporation and a detailed analysis has been completed of the staff structure and sickness absence in the Health and Social Services Department for the financial year April 1969—March 1970.

The following observations can be made from this analysis:

1. There was a considerable 'turn over' of staff in the case of full-time staff this amounted to 488 out of a total of 1,441—(29·7%) and in the case of part time home helps of 302 out of a total of 879—(34·4%)

2. The age distribution of employees of the Department was as follows:

<i>Date of Birth</i>	<i>Full time employees</i>				<i>Part time Home Helps (all female)</i>	
	<i>Male</i>	<i>% of Males</i>	<i>Female</i>	<i>% of Females</i>	<i>Number</i>	<i>% of Total</i>
Before 1901	5	1·23	4	0·39	1	0·1
1901—05	13	3·19	11	1·05	11	1·1
1906—10	44	10·78	65	6·29	61	6·9
1911—15	50	12·25	109	10·55	135	15·4
1916—20	35	8·58	121	11·73	168	19·2
1921—25	56	13·73	122	11·81	181	20·6
1926—30	61	14·95	82	7·94	105	12·0
1931—35	28	6·86	80	7·74	82	9·3
1936—40	24	5·88	86	8·33	47	5·3
1941—45	34	8·33	119	11·52	19	2·1
1946—50	44	10·78	153	14·81	4	0·5
1951—55+	13	3·19	80	7·74	0	0·0
Not known	1	0·25	1	0·10	65	7·5
All ages	408	100·00	1,033	100·00	879	100·0

3. The sex and civil state (in females only) distribution was as follows:

<i>Sex</i>	<i>Civil State</i>	<i>Full-time employees</i>		<i>Civil State</i>	<i>Part-time Home Helps</i>	
		<i>No. of Employees</i>	<i>% of Total</i>		<i>No. of Employees</i>	<i>% of Total</i>
Male	S.M. & W.	408	28·31	—	—	—
Female	S.M. & W.	1,033	71·69	S.M. & W.	879	100·00
		1,441	100·00		879	100·00
Female	Single	400	27·8	Single	19	2·2
	Married	602	41·7	Married	814	92·6
	Widow	31	2·2	Widow	46	5·2

4. The working days lost by 953 full time employees working for the whole year was 10,659, out of a total possible number of working days of 297,336—a loss due to sickness absence of 3·58%.

5. The working days lost by 577 part-time home helps working for the whole year was 11,838, out of a total possible of 180,124—a loss due to sickness absence of 6·57.

6. The sickness absence rates (days sick as % of total possible working days) varied according to several factors:

- Age—highest at ages 25-30 years and 55-60 years.
- Sex and civil state. Females higher than males and amongst females—single higher than married.
- Occupation—length of spells longest in manual workers and shortest in administrative and clerical. Home helps had highest rates of all employees.

7. Uncertified sickness absence (1-3 days) in full time staff only, employed for the whole of the year was 15% of the total sickness absence. Absences were twice as high in administrative and clerical staff as in manual workers. (Home helps are not required to produce a certificate in case of absence and 1—3 days absence in this group was not calculated).

8. Causes of sickness absence (in full time employees only).

Respiratory infections caused 30·8% of total sickness absence. (There was a widespread Influenza epidemic in December 1969—January 1970). Conditions of joints and organs of move-

ment caused 8·5% ; accidents 7·6% ; digestive disturbances of all types 7·0% ; and cardio-vascular conditions 6·0%.

9. Sickness absence by occupational groups (full time employees working for the whole of the year).

Administrative and clerical staff—each employee had on average 1·3 spells of absence each of 6·5 days.

Nursing staff had 1·3 spells each of 7·3 days ; Manual workers 1·2 spells of 8·0 days and (male) Ambulance staff 1·7 spells of 7·9 days. The heavier loss in Ambulance staff was related to spells on account of conditions of muscles and joints and 'back injuries'.

10. Some of the causes of sickness absence may be preventable for example those due to accidents, and some back injuries due to incorrect lifting practices. To encourage safer working—safety instruction should form part of first aid courses. Measures which will reduce the amount of cigarette smoking may reduce the sickness absence loss due to upper respiratory infections. Where an epidemic of Influenza can be anticipated—vaccination might considerably reduce sickness absence.

ENVIRONMENTAL HEALTH SERVICES

G. J. Creech, M.B.E., C.St.J., F.R.S.H., M.A.P.H.I.,
(Chief Public Health Inspector)

REPORT TO THE MEDICAL OFFICER OF HEALTH

I have pleasure in submitting my Seventh Annual Report upon the work of the Environmental Services Division, being upon the work carried out in 1970.

In previous years I have been able to report a continuing increase in complaints received and visits made. Presumably it would be unreasonable to expect this process to continue without interruption and this year has seen a slight fall. Total complaints and enquiries were 14,010 against 15,063 for 1969 and total visits 136,179 as against 137,388 for 1969.

In examining these figures it is noted that the fall in complaints refers almost solely to Public Health and Housing work, rodent complaints remaining practically static. In contrast the visits by the Inspectorial staff remained constant and the fall in visits was in the Pest Control Section. It will be remembered that during the year there was a Manual Workers' strike which undoubtedly accounts for this fall in visits.

During the year attention has been directed towards Food Hygiene work and the enforcement of the Offices, Shops and Railway Premises legislation. Although recourse to legal proceedings is always regarded as the last resource to be considered when all else has failed we took 62 cases to Court covering 100 separate counts and obtained fines amounting to £1,451·67½. Of these 14 cases involving 36 counts with fines totalling £720 were taken in respect of contraventions of the Offices, Shops and Railway Premises legislation.

As in previous years I must pay a grateful tribute to the loyalty and devotion of a truly excellent staff who have all displayed a splendid team spirit and who have all taken a real pride in all their undertakings. Without this splendid support it would have been quite impossible to be able to present a report of such a successful year's work.

As I write these words I am conscious of my impending retirement in the New Year after 42 years service with Bristol Corporation. I borrow the words of my old and very revered Headmaster when he spoke at the Speech Day just before his retirement. He said, as I now do, "These are my last words in my last Report".

GENERAL ENVIRONMENTAL HEALTH WORK

SUBMISSION OF PLANS

This year 749 plans were received in this Division from the City Engineer and Planning Officer. These were dealt with by the district and specialist public health inspectors and this once again proved of great value as many problems have been anticipated and dealt with before the commencement of works.

WATER SUPPLY

The City is supplied by the Bristol Waterworks Company and, as in previous years, the water supply has been found to be satisfactory in both quality and quantity. No contamination was found during the year which necessitated action by the Department.

The whole of the City's population is supplied by water mains direct to houses and there are, therefore, no standpipes.

The fluoride content of the water supplied to the Bristol area varies with the source of supply and remains the same as last year.

Barrow	...	...	...	...	0.04—0.20 p.p.m.
Chelvey	...	...	...	...	0.05—0.12 p.p.m.
Stowey	...	...	...	...	0.08—0.38 p.p.m.
Littleton	...	...	...	...	0.05—0.15 p.p.m.

SEWERAGE AND SEWAGE DISPOSAL

Arrangements for sewerage and sewage disposal have again proved adequate. As with last year, work has continued throughout this year in constructing a sewer system to intercept sewage before discharge to the River Avon. The Ashton Pumping Station was completed and from the 14th September, sewage from the Bedminster, Ashton, Bishopsworth, Hartcliffe, Knowle West and Long Ashton areas was pumped to the sewage treatment works at Avonmouth. The population served by the pumping station is 90,000 at the present time and this brings the total population

served by the sewage treatment works to 372,000 or some 65% of the total population in the regional drainage area. The disposal of digested sludge at sea commenced in April and has proceeded very satisfactorily during the year.

At the end of the year a contract was let for the construction of three inverted syphons under the New Cut. When completed these will convey sewage from the central and eastern areas of the City and Kingswood and Warmley to the trunk sewers which discharge to the sewage treatment works. The syphons will serve a population of 128,000 and when completed in 1973 they will increase the population served by the sewage treatment works to 500,000.

There has been no change in the number of premises in the City not drained to sewers. The number being the same as last year, 325.

HOSTELS (Common Lodging Houses)

The three hostels, two run by the Salvation Army and the other by the Church Army, have been found once again to be satisfactory.

THE PET ANIMALS ACT, 1951

All pet shops in the City were inspected prior to the issue of a licence by the Corporation's Veterinary Officer and a public health inspector. Routine inspections were again carried out by district inspectors during the year and a total of 96 inspections were made of 28 premises.

THE ANIMAL BOARDING ESTABLISHMENTS ACT, 1963

As last year, three licences were renewed after inspection by the Veterinary Officer.

THE RIDING ESTABLISHMENTS ACT, 1964

The two riding establishments in the City were both inspected by the Veterinary Officer and a licence was issued to one, the occupier of the other premises being refused a licence. However, the person concerned in the latter case appealed to the Magistrates' Court against the Corporation's refusal to grant a licence, and after a lengthy hearing the appeal was upheld.

THE THEATRES ACT, 1968

Applications for licences under the Theatres Act, 1968 were passed to this Division as a matter of routine. This involved public health inspectors in 157 visits to 90 premises during the year.

MANUAL WORKERS STRIKE

The national strike of municipal manual workers which occurred during October and November was particularly felt in Bristol where the withdrawal of labour affected all Departments, including our own pest control, disinfection and disinfestation services and Abattoir staff. For the duration of the strike these services were not available to the Department, which meant that no practical measures could be taken against possible public health hazards arising from the unauthorised tipping of refuse at some 200 sites.

Having gained valuable experience from the strike of refuse collectors last year, it was possible to offer public health advice at a very early stage through the Public Relations Officer, and this early dissemination of information materially reduced the incidence of public health problems. Despite advice to the contrary, however, a large number of unofficial refuse tips began to appear which necessitated very close scrutiny from the point of view of nuisances and infestation. Because of the possibility of a public health hazard arising from the absence of drain and sewer maintenance and of rodent control and disinfection measures it was necessary for very close scrutiny of the District by the Public Health Inspectorate, in order to provide the daily report and comment upon conditions which was invariably required by the Press and Television news media, and for the Emergency Committee.

It was, perhaps, fortunate that the strike occurred during the winter months when ambient temperatures were low, as it is questionable whether similar conditions in hot, humid weather at the height of the rat breeding season could have been held in check for such a long time without some major concessions being granted in the interests of public health.

NOISE

During the year 131 complaints were received with regard to noise and these necessitated 2,403 visits being made by public health inspectors. In only five instances was it found necessary to

serve an Abatement Notice, the other nuisances being resolved informally to the satisfaction of all the parties concerned. Two of the Abatement Notices were not complied with and recourse was had to the Courts.

One such case involved a noise nuisance emanating from a launderette. Former shop premises above which is situated tenanted living accommodation were converted to a launderette, and as soon as it was opened complaints of a nuisance arising from noise and vibration were received from residents of the flat above and of adjacent premises. These complaints were investigated and found to be justified. The nuisance arose from the inadequate strengthening of the suspended ground floors and insufficient attention being paid to the sound insulation of the machines during installation. Court action was taken, and a Nuisance Order was made against the owner of the launderette as a result of which works to comply with the Order are now in progress. This case emphasises the close attention which must be paid to plans when they are submitted for Building Regulation and/or Planning approval, particularly if it is indicated that any plant or machinery is to be installed on the premises. It is frequently found, however, there is no such indication on plans and, therefore, no comment can be made on the proposal with regard to the prevention of noise nuisance.

Wherever it is considered likely that a nuisance from noise or vibration could arise from the proposals contained in a Building Regulation or Planning application, it is now standard practice to measure the existing ambient sound pressure levels in the vicinity of the site in question. A general comment with regard to noise and vibration is then sent to the developer and if complaints of an alleged nuisance are subsequently made an established criterion is available.

Reference was made in last year's Report to the noise nuisance arising from the new factory premises of a firm of timber packing case manufacturers. Noise emanating from a sawdust collection plant was the subject of an Abatement Notice at the end of 1969. The plant consists of draw-off ducts which carry sawdust and woodchips from the work benches to a large cyclone which draws the material to one central point, a 'miracle mill' plant which reduces the particle size of the material and a final discharge to a purpose-built lorry used to transport the material away from the site. Works which were carried out to comply with the Abatement Notice included the fitting of two silencers on the ducting leading to the dust collecting vehicle; the construction of an acoustic enclosure for the entire cyclone; a solid brick encasement around two suction motors; the isolation of the metal ducts from the motors to the cyclone and of two large fans serving the cyclone by the fitting of canvas sleeves; the replacement of the fan in the 'miracle mill' plant by one of more suitable design to attenuate the characteristic pulsation noise it created; the covering of the cowl fitting on the top of the cyclone in order to reduce the characteristic 'water rushing' noise of the wood chips; the acoustic relining of the roof of the sawdust collection vehicle and the fitting of additional acoustic boxes around the silencers. These works were carried out in stages and, after the completion of each stage, a reassessment of the noise level was made using the octave band sound level meter. The over-all result is a reduction of 15 dBA and the disappearance of the characteristic pulsation and 'water rushing' noises.

Once again, noise arising from demolition and building sites in the central area of the City has given rise to a large number of complaints. Extensive demolition and redevelopment has taken place during the year in the vicinity of the Centre amidst numerous office premises. The solution has again been to restrict the use of noisy plant, such as pile drivers, to before 10 a.m., between 12 noon and 2 p.m. and after 5 p.m. with the co-operation of the contractors concerned. This emphasises the usefulness of really effective public relations when dealing with noise problems.

This summer, the advice of the Specialist Inspector responsible for noise control was sought by the City Engineer and Planning Officer with regard to excessive noise levels in tractor cabs causing a noise induced hearing loss. The tractors used by this Department for grass cutting in parks and open spaces had been fitted with safety cabs in order to comply with new Safety Regulations. Tractors have always been very noisy, but the addition of a fixed solid construction cab accentuated the problem and confined the sound waves within the operator's cab. Complaints were made by the drivers both to the Corporation and to their Union and these resulted in a full investigation.

A series of tests were carried out in the Ashton Court Estate in the presence of representatives from the City Engineer and Planning Officer's Department, the Union, the tractor manufacturers, their local suppliers and the cab manufacturers. Sound pressure levels were measured inside the cab under various working conditions and at varying engine speeds, the results indicating that the levels were well above those which can cause noise induced hearing loss when exposure is for lengthy periods. The highest noise level recorded was 117 dBA and this was attained when the tractor was in motion on a normal road surface. When this is related to the threshold of pain, 120 dBA, one can easily justify the concern which the tractor drivers were expressing and identify

the cause of the temporary hearing loss they experienced. As a result of the first series of tests, both the tractor and cab manufacturers produced a prototype cab with easily removable acoustic linings. They also provided additional acoustic coverings for the tractor gear-box and transmission shafts. A further series of tests were carried out under the auspices of the Ministry of Agriculture, Fisheries and Food, sound pressure level measurements being taken under similar conditions as hitherto, but on each successive test sections of the acoustic lining were removed. In this way at the end of the series of tests the noise attenuation brought about by each section of acoustic lining could be ascertained. It is hoped that as a result of the efforts put into this exercise a cab will be designed and manufactured which is comfortable and, most important of all, safe to work in thus benefiting not only Corporation workers but all agricultural workers. If the manufacturers are unable to develop a safe cab from the point of view of noise the operators will have to insist that the drivers wear some form of ear protection, as the provision of these cabs is a legal requirement.

The problem of road traffic noise is increasing as is the public awareness of its presence. Although the Department is not responsible for the enforcement of the legislation controlling traffic noise, there is an awareness of the problems it creates and any new legislation introduced to control noise from this source is not unnoticed and deserves mention in this Report. Some relief to the problems of increased road traffic noise has been brought about during the year by the ban imposed by the Government on the use of heavy road vehicles weighing more than 32 tons. Indirectly, this should prevent the ambient traffic noise level creeping further upwards. Already the noise levels in the vicinity of the City's arterial roads are, at times, in excess of 90 dBA, for which level 'Kryter' states a maximum permissible exposure of 8 hours. Although no time checks have been made, I am sure that this exposure time is exceeded at times, and must obviously have an effect on the work performance of persons working in shops fronting these roads, at the same time adding to the over-all strain on members of the public shopping in such areas.

The following is an analysis of the complaints received and dealt with during 1970.

	Source classification							No. of complaints	
A	<i>Industrial (heavy)</i>								
	General industrial operations	16	} 29
	Engine testing	...	...	...	...	...	...	2
	Transporting of industrial products	...	...	...	...	...	...	5
	Zinc smelting plant	...	...	...	...	...	...	3
	Sand blasting	...	...	...	...	...	...	2
	Steam hammer	...	...	...	...	...	...	1
B	<i>Industrial (light)</i>								
	Launderettes	2	} 17
	Car spraying	...	...	...	...	...	...	4
	Garages	...	...	...	...	...	...	1
	Coal yards	...	...	...	...	...	...	1
	Fruit markets	...	...	...	...	...	...	1
	Bakeries	...	...	...	...	...	...	2
	Refrigerators and deep freezing equipment	...	...	...	...	...	...	4
	Vacuum cleaning	...	...	...	...	...	...	2
C	<i>Building and Road Works</i>								
	Building sites—general noise	5	} 22
	Crane operation	...	...	...	...	...	...	1
	Pneumatic drills	...	...	...	...	...	...	9
	Compressors	...	...	...	...	...	...	5
	Pile hammers	...	...	...	...	...	...	2
			
D	<i>Public Entertainment</i>								
	Cafes	5	} 19
	Music	...	...	...	...	...	...	7
	Dances	}						7	
	Clubs								
	Public Houses								
	Cinemas								

E	<i>Transport and Road Vehicles</i>								
	Ice cream van chimes	2	}	14
	Road traffic noise	...	...	...	...	...	11
	Railway undertakings	...	...	...	...	...	1
F	<i>Noise from Public and Animals</i>								
	Radio and television	7	}	30
	Plumbing	...	...	...	...	...	2
	Neighbours	...	...	...	...	...	9
	Pet animals	...	...	...	...	...	12

HEALTH EDUCATION AND TRAINING

The impact made by European Conservation Year was reflected in the increased number of requests for talks on environmental health work in general and pollution of the environment in particular. A list of organisations to whom talks have been given is below. The increase in talks given to food handlers last year has been maintained and it is hoped to increase these still further in the near future.

TRAINEE PUBLIC HEALTH INSPECTORS

Seven trainee public health inspectors were in training at the beginning of the year. The two final year students sat the final examination and unfortunately neither was successful. One was successful at the resit in November, the other one having been prevented from sitting the examination because of sickness. Four new trainees were appointed and commenced their duties on the 1st September. One of these was a former technical assistant in the Department, two entered the service straight from school and the other from university where he had obtained an honours degree in economics and geography.

The final year trainees have again benefited from the reciprocal training scheme operated by the Western Centre of the Association of Public Health Inspectors where students from the county boroughs spend a week in the Public Health Inspector's office of a rural and an urban district council. Students from these types of authority also spend some time in this Department. The second year students received training with the Bristol Waterworks Company, the Bristol Avon River Board and the City Engineer and Planning Officer's Department with regard to sewage disposal and trade effluents.

Students on the B.Sc. Honours Degree Course at the University of Aston in Birmingham visited the Port Health Section in order to obtain practical experience of this work and the final year of the Public Health Inspectors' Diploma Course at the Matthew Boulton Technical College, Birmingham spent four days in the City to see how our organisation deals with environmental health problems.

LECTURES AND/OR DEMONSTRATIONS

<i>University of Bristol</i>	Diploma in Public Health
<i>Department of Public Health</i>	Health Visitors' Certificate Course
	Clinical (Medical) Course
<i>Department of Veterinary Medicine</i>	Veterinary Public Health Course
<i>Extra-Mural Department</i>	Weekend School for Public Health Inspectors
<i>University of Aston in Birmingham</i>	Public Health Inspectors Honours Degree Course
<i>Bristol Polytechnic</i>	
<i>Faculty of Economics and Social Sciences</i>	Social Work Course
<i>Faculty of Technology</i>	Diploma Course for Public Health Inspectors
	Diploma in Air Pollution Control Course
<i>Matthew Boulton Technical College,</i>	Public Health Inspectors' Diploma Course
<i>Birmingham</i>	
<i>Redland College</i> }	Student teachers
<i>College of St. Matthias</i> }	
<i>Bristol Technical College</i>	National Trade Development Association—
	Licensed House Training Course
<i>Department of Health and Social Services</i>	Pupil Midwives
	District Nurses

United Bristol Hospitals }
Frenchay General Hospital }

Student Nurses

Stoke Park Hospital }
Purdown Hospital }
School Meals Service

Catering and Nursing Staffs (food hygiene)
Trainee Supervisors
Cooks in charge and Supervisors
(Refresher Course)

The following schools were visited :—

Ashton Park Comprehensive School
Knowle Secondary School
Lockleaze Comprehensive School
Pen Park Girls' School
Whitefield School
Withywood Comprehensive School

Talks were also given for :—

Association of Councillors
Brislington Labour Group
Eastville Park Methodist Church
Hartcliffe Methodist Young Wives Group
Headley Park Community Association
Jones of Bristol Ltd. (food handlers)
J. Lyons & Co. Ltd. (Bread Sales Supervisors)
MacFisheries Ltd.
Nuthalls Hotels Ltd.
Redcliffe Caterers Ltd.
St. George Baptist Ladies Interest Group
St. John Ambulance Brigade, Kingswood Divisions
St. Marks Baptist Men's Club
Sutcliffe Catering Co. (West of England) Ltd.
Tesco Stores Ltd.
United Nations Association, Bristol Branch

HOUSING

There are approximately 130,230 dwellings in the City of which 52·9% are owner/occupied, 33·4% owned by the Local Authority, 10·5% are rented unfurnished, 1·1% rented furnished and 2·1% others. During the year 185 unfit houses were demolished voluntarily by their owners without recourse to statutory action. Tenanted houses which are the subject of Closing Orders and which are vacated, repaired and improved and then sold for owner/occupation make an appreciable contribution to the decontrol of properties and the improvement of our housing stock. In fact, an increased market for void houses, in respect of which Closing Orders have been made, has resulted from the revised conditions and increased grants introduced by the 1969 Housing Act. The cost of repairs and improvements to dwellings carried out by the owners subsequent to action being taken under the Housing Acts continues to run at approximately £80,000 per annum. Experience this year has confirmed an earlier opinion that increasing numbers of houses in general improvement areas are being offered for sale to the Corporation. The policy of routine inspection of basements has continued and this has resulted in an increase in the number of applications for improvement grants. Officers from this section have been required to give evidence in the County Court on five occasions in connection with proceedings for possession of houses subject to orders and undertakings where the occupiers have refused to vacate the premises. Land charges and other enquiries relating to future housing action dealt with by the Housing Section during the year numbered 9,500.

The Housing Act 1969 places upon Local Authorities new responsibilities, new powers and new incentives, but in the last resort success will depend upon the skills, experience, enthusiasm, tenacity and patience of the officer in the field. To this end, it is essential to have co-operation,

in a give and take atmosphere, between departments of varying duties, professional ideals and disciplines participating as equals towards a common objective.

St. Pauls

The mention of "St. Pauls" to the majority of Bristolians creates a picture of blight and depression. Within this area, which has a population in excess of 10,000, is to be found high density occupation, decaying fabrics and the absence of maintenance, basement rooms, unfit houses, void sites, multi-occupation, high fire risk, a high immigrant population, a serious deficiency of the basic household amenities, road systems unsuited to modern vehicular requirements and congested by 'on street' parking. In addition there are environmental deficiencies associated with lack of street amenities, such as open spaces and trees, and arising from inadequate facilities for children's play. Moreover the quality of the environment suffers in some cases from seriously inadequate distances between buildings and the erection of temporary and 'Do-it-yourself' structures of all shapes and sizes at the rear of houses.

During the past two or three years the physical problems of St. Pauls have been studied by a working party comprising senior officers of the Planning, Housing and Health Departments. The following aspects of the problem have been studied in detail: land use; age of buildings; external conditions of properties augmented by the special knowledge of public health inspectors; environmental character; nature and economic status of shops; relief and landscape features; community facilities; details of Corporation ownership, improvement grants given, mortgages etc. and land which may be required for road proposals. The working party hold meetings at regular intervals to co-ordinate activities, exchange information, pool knowledge and generally to decide future policy. It was decided very early in the study that the wholesale acquisition and demolition of houses and business premises was neither practical nor desirable and that the interests of the St. Pauls area in particular, and the City in general, would best be served by retaining the neighbourhood as a unit in a revitalised, modernised and improved form.

A new school associated with a play area and other open spaces to provide essential educational and recreational facilities and two new shopping precincts are planned for the area. The price to be paid for such development, and there must always be a price, in terms of the demolition of houses both in number and value has been kept to a minimum by selecting those areas where a high proportion of the houses are either unfit or congested. Properties have been graded as to 'life' for the purpose of short or long term improvements, bearing in mind major road proposals and industrial expansion. The final plan represented the considered thinking of the Council and was made public at a well attended meeting of owners and residents at which questions of general principle and policy were answered. In order to afford those interested with further opportunities to consider the plan in greater detail, a local shop was converted into an enquiry office. All relevant maps were on exhibition and information was made available with regard to grants and loans for house improvement. Comments, both good and bad, were recorded and will be studied.

An ambitious scheme of public relations in furtherance of a plan for environmental improvement by way of the Housing Act 1969 is to be embarked upon, step by step throughout the area by organising a series of area meetings. The results of this exercise remain to be seen but the Local Authority have done their best by effort, example and an active policy of public relations. Will the owners and occupiers of the area co-operate? Democracy is on trial and success or failure will depend on the human problems of the area, not solely the physical problems associated with property and land.

Special Grants

The 1969 Housing Report made reference to a new form of grant, special grants, which can now be made in respect of houses in multiple occupation or, to give such houses their new statutory title, 'houses occupied by persons who do not form a single household'. Whereas improvement grants, both standard and discretionary, are related to the improvement of dwellings, special grants are related to the provision of standard amenities, which can be more than one of each kind, in existing multi-occupied houses. The circumstances or conditions which have to be satisfied before a special grant application can be approved are not laid down, the Local Authority having to decide for themselves. Even within a local authority's district conditions will vary widely from area to area, but even in the exercise of a discretion there should be some basic universal standard applicable to multi-lets, both within and outside general improvement areas. Under the Housing Act, 1961, local authorities adopted such regulatory powers or standards and these standards generally reflected the complexity and magnitude of their own problem. Now that application for

special grants can be made and bearing in mind the environmental aims of general improvement areas, is it not an opportune time to reconsider the whole matter of standards?

Ought not our sights to be raised in order to approximate more closely to the standard grant provisions. Is it desirable in an area where trees are planted, play spaces provided and streets made traffic free that, in the houses themselves, one W.C. is considered adequate for eight persons? It must be remembered that improvement works carried out now will have to last for a long time. Desirable as it may be, the adoption of a higher standard will be much more difficult to achieve and will produce other problems. In order to create the necessary space for these added amenities there will be need for greater depopulation and therefore an increased demand for council houses. For the owner it means spending more money on a higher level of improvement with a probable reduction in income. Multi-lets after all is a business. If the occupier is protected by the Rent Acts, and with multi-lets there is bound to be a substantial percentage of these, what does one do if the occupier refuses either to be rehoused or to give his consent to the improvements? It is a matter of some speculation in areas of houses which are predominantly in multiple occupation whether a general improvement area will ever get off the ground, for it is a pre-condition of any such scheme that a substantial majority of the people, and this really means owners, want it and are prepared to put their own houses in order.

Be this as it may there is an important difference in the local authority's position between grant aid to the ordinary one-family house and grant aid by way of special grants to the multi-let house. In the former case the only course open to a local authority when an owner cannot or will not apply for a grant for improvements is to purchase, compulsorily if necessary, and do the work themselves. There is a marked reluctance among local authorities to go this far. Whilst the power to compulsorily acquire applies equally to a multi-let house in a general improvement area, the local authority has the alternative of taking action under Section 15, Housing Act 1961, thereby compelling the owner to provide the added facilities; this in turn may 'encourage' an owner to apply for a special grant. Whether improvement works are achieved by way of a special grant or statutory action under Section 15, Housing Act, 1961, action under Section 19, Housing Act, 1961, by way of directions to prevent or reduce overcrowding is necessary. Only by doing this can a degree of control be exercised over the number of persons or households occupying the house.

Housing Priority on Medical Grounds

A close liaison is maintained between the City's Housing Department and the Health Department. A medical officer assesses the relative priorities of housing applicants in relation to any medical conditions that are present. This is carried out with the help of the general practitioners and hospital medical staff in the City.

During the year 2,621 cases were assessed of which 1,319 were for housing transfer and the rest were new applicants. The annual number of cases has more than doubled in the last six years from 1,154 during 1965.

In 102 cases medical circumstances made rehousing a matter of urgency and they were given priority.

MEAT INSPECTION

The total number of animals slaughtered in the City this year increased by just over 4.0%. At the Public Abattoir last year's decrease of 13% has changed this year to an increase of more than 12%. Although this is very welcome there are indications that the increase will not be maintained.

No Irish cattle were slaughtered at the Abattoir this year but, as expected, the number of calves and sheep slaughtered have again decreased, calves by some 11% and sheep by just over 5%. The slaughtering charges for heavy sheep were increased in June and this adversely affected the number of sheep sent for slaughter. The number of pigs slaughtered at the Abattoir and bacon factory have again increased, by over 5% at the Abattoir and over 4% at the bacon factory. The indications are that this increase will be maintained next year, particularly in the bacon trade.

No evidence of tuberculosis was found on post mortem inspection either in the three cows sent for slaughter in accordance with the Tuberculosis Order 1964 or in any other animals. Lesions resembling tuberculosis were found in a pig but laboratory confirmation was not forthcoming. Three steers, three heifers and three cows were found to be affected with Cysticercosis and all these were subjected to cold storage in accordance with the Meat Inspection Regulations 1963. Carcasses affected with cysticercosis sent to cold stores in the City from the areas of other local authorities were again regularly checked and stamped at the completion of treatment.

The recently constructed line system for cattle and sheep has worked satisfactorily during the past twelve months and the pig slaughtering area has now received special treatment to remove rust. The surface of the glazed bricks has been removed and this will now enable the whole area to be redecorated. It would be possible to increase the throughput at the Abattoir if an Export Licence were obtained and it was originally thought that the recently completed alterations would have met the requirements for a licence. Unfortunately so much time elapsed between the acceptance and the completion of the scheme that the E.E.C. Regulations were amended and re-amended. As a result, further works will have to be carried out in order to meet the requirements for the Export Licence.

The use of the Abattoir for lecturing and demonstration purposes has continued but the poor facilities at present provided restrict the amount of lecturing that can be done. Plans have been drawn up by the City Valuer for a new lecture room and it is hoped that these will soon be approved. Parties from local secondary schools have again visited the Abattoir and a variety of specimens have been provided for their classroom studies. Research workers have also spent a considerable time at the Abattoir examining large numbers of specimens.

Meat Inspection

All animals slaughtered in the City during the year were inspected in accordance with the Meat Inspection Regulations 1963. The permanent meat inspection staff at the Abattoir is supplemented by district public health inspectors during holidays, sickness and other emergencies. Sheep and goats slaughtered for followers of the Mohammedan faith are slaughtered by Mohammedans licensed to slaughter by stunning with the aid of the electro-lethalizer. This is in accordance with the pronouncement of the Iman, The Shah Jehan, The Mosque, Woking, who has recently reiterated this statement.

Thanks must be expressed to the Director of the Public Health Laboratory, Dr. H. R. Cayton, and his staff and also to Dr. H. D. Crofton of the Zoology Department of the University of Bristol for their continued assistance.

During the year 826 pig diaphragms were submitted for the detection of the parasite *Trichinella spiralis*, all being reported as negative. The packing of chilled beef cuts in vacuum sealed polythene packs which was introduced last year has continued and increased. Some English firms are now packing English beef in the same way and it would appear that there will be an increasing use of this method in the future. Many slaughterhouses now provide facilities for boning and cutting together with sufficient chiller space and there can be no doubt that this is the best place for these processes to be carried out.

Meat Depots/Cold Stores

The new cold store at Avonmouth is now in operation and all the latest methods of handling and storing various commodities of food have been incorporated in its design. Blast freezers are also provided with a separate room for the inspection and cutting of any commodity. The other cold stores in the City are well maintained and one of the oldest is being thoroughly overhauled.

Knackers Yards/Offensive Trades

The only licensed knacker's yard in the City performs a useful function although the premises are far from ideal. The Sterilization Regulations 1969 placed added responsibilities on the occupier and regular sampling has shown cross infection from raw meat to cooked meat. Steps have been taken to overcome this problem.

As expected, some nuisance arose during the year from the offensive trades processing organic material. Unfortunately these will continue until the plants are re-designed and an adequate sewer is provided to remove the trade effluent. Many of the odours which are the subject of complaints emanate from the outfall of the drain discharging above the river level. The smell arising from the cooked material is at times more pungent than normal and this also gives rise to some complaints. Up to the present time the nuisances complained of have not justified action under the Public Health Act 1936.

Sampling

(a) Pet Shops

The sampling of meat and offal from pet shops has continued. Details of these samples are shown in Table 12 and the types of salmonellae isolated are as follows:

	Knacker Meat					Horse Meat			Sewer Swabs	Bedding from Cattle Lairs	Butchers' Meat	Mesenteric Glands	Pigs Liver	Frozen Meat	Others	Total
	Meat	Tongue	Kidney	Liver	Heart	Meat	Liver	Heart								
S. agama	6	2	—	1	1	—	1	—	6	—	—	2	—	—	—	19
S. albany	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1
S. anatum	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1
S. californica	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1
S. dublin	3	—	—	1	1	1	—	—	3	1	1	—	1	1	—	13
S. enteriditis	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1
S. indiana	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	2
S. livingstone	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1
S. heidelberg	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	2
S. minnesota	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1
S. orion	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1
S. panama	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1
S. reading	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1
S. tennessee	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1
S. typhimurium	3	1	1	2	1	4	1	—	6	—	7	—	4	—	1	31
specie	—	—	—	—	—	1	—	—	1	—	1	—	—	1	—	4
Totals	12	3	1	4	3	7	2	—	23	1	11	2	8	2	2	81

The types of salmonellae isolated since this scheme of sampling commenced in 1961 are summarised in the following table:

			PIGS													Total
			Meat	Liver	Heart	Kidney	Tongue	Kangaroo Meat	Butchers' Meat	Sewer Swabs	Bedding from Cattle Lairs	Mesenteric Glands	Caecal contents	Liver	Miscellaneous	
S. adelaide ...	...	...	—	—	—	—	—	4	—	—	—	—	—	—	—	4
S. agama ...	...	...	7	3	1	—	2	—	1	8	—	—	—	1	1	24
S. anatum ...	...	...	1	2	—	—	2	3	—	—	—	2	—	—	1	11
S. arechavaleta	...	...	—	—	—	—	—	1	—	—	—	—	—	—	—	1
S. bahnenfeld	...	...	—	—	—	—	—	1	—	—	—	—	—	—	—	1
S. barietty ...	...	...	—	—	—	—	—	—	—	1	—	—	—	—	—	1
S. bovis morbificans ..	...	...	6	1	—	—	—	—	—	—	—	—	—	—	—	7
S. benza ...	...	...	1	—	—	—	—	—	—	2	—	—	—	—	—	3
S. brandenberg	...	...	1	1	—	—	—	—	—	—	—	2	—	—	—	4
S. chester ...	...	...	1	—	1	—	—	4	—	—	—	—	—	—	—	6
S. derby ...	...	...	1	—	—	—	—	—	—	—	—	—	—	—	—	1
S. dublin ...	...	...	35	24	7	1	4	1	—	10	2	2	—	1	—	87
S. einsbuettal	...	...	—	—	—	—	—	—	1	—	—	—	—	—	—	1
S. fischerkiety	...	...	—	—	—	—	—	—	—	—	—	1	—	—	—	1
S. give ...	...	...	—	—	—	—	—	—	1	—	—	—	—	—	—	1
S. haelsingberg	...	...	1	—	—	—	—	—	—	—	—	—	—	—	—	1
S. heidelberg	...	...	1	—	—	—	—	—	—	—	—	1	—	2	—	4
S. indiana ...	...	...	1	—	—	—	—	—	2	1	—	—	—	—	—	4
S. meleagridis	...	...	3	—	—	—	—	—	—	—	—	—	—	—	—	3
S. mikaivasema	...	...	—	1	—	—	—	—	—	—	—	—	—	—	—	1

S. minnesota ..	...	...	—	—	1	—	—	—	—	—	—	—	—	—	1
S. montevideo	...	...	—	1	—	—	—	—	—	—	—	—	—	—	1
S. muenchen	...	...	—	—	—	—	—	1	—	—	—	—	—	—	1
S. naigoya ...	...	...	—	—	—	—	—	—	4	—	—	—	—	—	4
S. newport ...	...	...	1	—	—	—	—	—	—	—	—	—	—	—	1
S. oranienberg	...	...	1	—	—	—	—	1	—	—	—	—	—	—	2
S. orion ...	...	...	—	—	—	—	—	1	—	1	—	—	—	—	2
S. panama ...	...	...	—	—	—	—	—	—	1	—	—	—	—	—	1
S. poona ...	...	...	—	—	—	—	—	—	—	—	1	—	—	—	1
S. saint paul	...	...	1	—	—	—	—	—	—	—	—	—	—	—	1
S. reading ...	...	...	—	—	—	—	—	—	—	—	—	—	1	—	1
S. rubislaw ...	...	...	—	—	—	—	—	1	—	—	—	—	—	—	1
S. san diego ...	...	...	—	—	—	—	—	1	—	—	—	—	—	—	1
S. singapore	...	...	—	—	—	—	—	—	—	—	1	—	—	—	1
S. stanleyville	...	...	—	—	—	—	—	—	—	—	1	—	—	—	1
S. taksiny ..	...	...	—	1	—	—	—	—	—	—	—	—	—	—	1
S. thompson ..	...	...	1	—	—	—	—	—	—	—	—	—	—	—	1
S. tennessee ...	...	...	—	—	—	—	—	—	1	—	—	—	—	—	1
S. typhimurium ...	...	...	32	18	9	8	4	1	—	20	1	13	1	5	112
S. var jena	...	...	2	1	1	1	1	1	—	—	—	—	—	—	7
S. zehlendorf	...	...	—	—	—	—	—	1	—	—	—	—	—	—	1
Specie ...	...	...	7	—	3	—	—	3	—	1	—	3	—	—	17
Unidentified	...	...	—	—	—	—	—	—	1	—	2	—	—	—	3
New sero type	...	...	1	—	—	—	—	—	1	—	4	—	—	—	6
TOTALS	...	...	105	53	23	10	13	25	5	52	3	33	2	10	335

All pet meats sampled are examined for evidence of Salmonellae and Shigellae but to date no Shigellae have been isolated. Positive salmonella samples show a considerable increase but with the small number of samples involved undue significance should not be given to this.

(b) Butcher Shops/Meat Depots

Table 13 gives details of the butchers' meat sampled and it will be seen that one positive sample was reported from each of three groups. The positive result of the sample of liver was not unexpected as it was taken from a casualty sent for emergency slaughter.

(c) Pig Mesenteric Glands/Liver

This year pig mesenteric glands were accompanied by a portion of liver from the same animal when submitted for laboratory examination. On one occasion two salmonella species were found in one mesenteric gland but on only two occasions were both liver and mesenteric glands infected with salmonella. The percentage is a little higher this year and most of the salmonellae isolated were of the typhimurium type.

(d) Sewer Swabs/Bedding from Cattle Lairs

The placing of sewer swabs in the centres of slaughtering was continued this year. On several occasions the force of the sewer flow washed away the swabs and this has reduced the number submitted for bacteriological examination. It is interesting to note that of the 75 swabs submitted, over 18% of the positive results came from the knacker's yard and over 10% of the positive results came from the bacon factory. This provides further confirmation that knacker meat is a potential danger and that pigs should also be treated with suspicion.

The practice of not clearing one of the cattle pens in the lairs but to only add clean straw every time it is used was continued this year. Of the 40 samples of bedding material submitted to the laboratory during the year only one was reported as positive when Salmonella dublin was isolated. This confirms the results of previous years that the cattle arriving at the Abattoir appear to be reasonably free from salmonella.

The Meat Inspection Section is responsible for that part of the Trades Description Act 1968 which applies to meat. Several firms have been advised to alter the wording of their advertisements and price labelling because of possible contravention. The use of X rays to determine the age of lamb carcase meat sold at a public market was used on one occasion and Dr. Smith of the Veterinary School of the University of Bristol, proved the value of this technique.

MILK AND FOOD INSPECTION

New or amended legislation

The Artificial Sweeteners in Food Regulations, 1969

These Regulations, which came into force on 1st January, 1970, supersede the Artificial Sweeteners in Food Regulations, 1967 and

- a) provide that saccharin, saccharin calcium and saccharin sodium are the only permitted artificial sweeteners (i.e. cyclamic acid, calcium cyclamate and sodium cyclamate are no longer permitted);
- b) prescribe compositional and labelling requirements for artificial sweetening tablets and
- c) prescribe specifications for the purity of permitted artificial sweeteners.

The Cheese Regulations, 1970

These Regulations supersede the Cheese Regulations, 1965, and the Cheese (Amendment) Regulations, 1966, and came into operation on 31st January, 1970. The labelling provisions now permit additional varieties of cheese to be sold under their varietal name without further description and calcium hydroxide is permitted as an ingredient in cheese.

The Colouring Matter in Food (Amendment) Regulations, 1970

These amending Regulations, which will come into force on 1st January, 1971, remove the coal tar colour Ponceau M.X. from the list of colouring matters permitted for use in food. Ponceau M.X. is a red colour used in some of the following food:—canned fruits; meat products; preserves pickles and sauces; soup mixes; soft drinks; jellies; flour confectionery and some liquid and powdered colouring compounds and essences.

The Cream Regulations, 1970

The Cream Regulations 1970 supersede the Food Standards (Cream) Order, 1951 and came into operation, with certain exceptions, on 1st June, 1970. These introduced new requirements for the description, composition, labelling and advertisement of cream and specify the minimum fat content for the various categories of cream. Provision is also made for the sale of cream in aerosol containers, the addition of sugars and the use of additives in controlled amounts in specified types of cream.

The Emulsifiers and Stabilisers in Food (Amendment) Regulations, 1970

The amending Regulations, which came into operation on the 1st September 1970, remove brominated edible vegetable oils from the list of emulsifiers and stabilisers permitted for use in food. Brominated edible vegetable oils were used as an emulsifier in some cloudy soft drinks to adjust the density of the essential oils and other flavourings.

The Fertilisers and Feeding Stuffs (Amendment) Regulations, 1970

These Regulations, which came into effect on 1st October, 1970, amend the Fertilisers and Feeding Stuffs Act, 1968, as already amended by the Fertilisers and Feeding Stuffs (Amendment) Regulations, 1968. They

- a) introduce a further limit of variation for high concentration compound fertilisers.
- b) include implied definitions for kainit and magnesium kainit.
- c) revise the sampling procedures for fertilisers and feeding stuffs in liquid form.
- d) add distillery by-products used in animal feeding stuffs to Schedules 2 and 9.
- e) prescribe methods of analysis for three prophylactic drugs and for calcium.
- f) exclude feathermeal from the implied definitions of feeding meat meal and feeding meat and bone meal and
- g) correct an inaccuracy in the definition of sugar contained in the eighth schedule.

LABELLING OF FOOD REGULATIONS, 1970

The Regulations revoke the Labelling of Food Regulations, 1967 before they became fully operative for all foods, other than those containing cyclamates. They supersede the Labelling of Food Order, 1953, as amended.

The principal changes are that the new Regulations

- a) amend and extend the provisions relating to the labelling of prepacked food and the lists of food to which they apply;
- b) impose requirements as to the labelling and advertising of certain foods for retail sale which are not prepacked, of food for sale from vending machines, of tenderised meat, of dried and dehydrated foods and of dry mixes;

- c) apply restrictions on the claims made for, and on misleading descriptions applied to, foods and
- d) make requirements in respect of the intoxicating liquor content of liqueur chocolates and shandy type drinks.

THE SOFT DRINKS (AMENDMENT) REGULATIONS, 1969

These amending Regulations came into operation on 1st January, 1970. They change the definition of "permitted artificial sweetener" in the principal Regulations and as a result saccharin, saccharin calcium and saccharin sodium are now the only permitted artificial sweeteners. The requirements as to declarations on the sale of soft drinks in or from vending machines are amended and changes are made in the forms of expressions, specified in Regulation 13 of the principal Regulations, for labels on containers of soft drinks containing any permitted artificial sweetener. The Regulations also amend the specification for saccharin, saccharin calcium and saccharin sodium in the first schedule of the principal Regulations.

THE SOFT DRINKS (AMENDMENT) REGULATIONS, 1970

These amend further the Soft Drinks Regulations, 1964, as amended by the Soft Drinks (Amendment) Regulations, 1969 (described above) and they came into operation on 3rd November, 1970. They allow the term "permitted artificial sweetener" to continue in use for a further year, that is, until 31st December, 1971.

THE FOOD AND DRUGS (MILK) ACT, 1970

"An Act to authorise the treatment of milk by the application of steam." It is now permissible, to process milk by the injection of steam subject to certain conditions. These include a condition that both the milk fat content and the milk solids other than milk fat remain the same after treatment as before it.

SAMPLING

Sweetening Tablets

Before the introduction of the ban on cyclamates, sweetening tablets known to contain this substance as a sweetener were identified. After the ban, a survey of chemists and other shops involved was carried out. It was found that only tablets containing saccharin were available on sale and that the previously identified brands of sweeteners containing cyclamates had been withdrawn. Repeated checks made throughout the year confirmed this.

Soft Drinks

Of the 20 or so samples of soft drinks taken during the early part of January covering a representative cross-section of manufacturers, only four were found to contain small quantities of cyclamic acid. As the samples were taken soon after the ban, a brief period was allowed for the manufacturers and retailers to adjust and further samples taken at a later date indicated that all but one was free from cyclamate. The manufacturer responsible was notified of this isolated case and the small remaining stock was immediately withdrawn. Sampling continued regularly throughout the year and in all 80 samples were taken.

Cheese

The 56 samples of cheese submitted throughout the year comprised 29 different varieties, including many continental varieties, and all were reported as being satisfactory with regard to their compositional standard.

Cream

A small sampling survey of cream was undertaken and numerous products examined, including cream doughnuts and other fresh cream confectionery. No adverse report was received.

Dry Goods

At the beginning of the year a more comprehensive programme was prepared for the routine sampling of dry goods. The system was designed primarily to allow methodical sampling of a much wider range of goods but, at the same time, it is flexible enough to enable special attention to be attributed to new foods appearing on the market, specialised and foreign foods and any goods covered by recently introduced legislation. All the targets were met and beside the overall

increase in sampling figures, priorities could be pre-determined and more purposeful sampling conducted.

Medicine and Drugs

The programme for sampling medicine and drugs was prepared after consultation with the Public Analyst and was then included into the above scheme.

MILK AND DAIRIES

During the year two more processors using the Holder method of pasteurisation ceased operations. There now remain only two dairies using this method.

Brucella

During May the routine sampling of milk from vending machines provided samples of untreated milk which gave suspect ring test culture results and further biological investigation confirmed the presence of *Brucella abortus*. As soon as this result was known the appropriate authority was informed and action was taken to prohibit the sale within the City of milk from this source. The County Authority responsible for the producer undertook the sampling programme required to monitor the infection in the herd and a close liaison was maintained.

SWIMMING BATHS

The twelve Corporation swimming baths were visited regularly each month and both chemical and bacteriological samples of the water taken. On occasion, mostly during the summer months, it was necessary to resample and a close liaison with the Baths Manager was maintained. There were no adverse reports regarding the bacteriological quality of any samples.

At the beginning of the year it was planned to widen the sampling programme and include all school swimming baths. As a result, eleven indoor baths were added to the routine sampling list and, in addition sampling was also undertaken at the Bristol University Students Union pool and the pool at the Bush Training Centre, Knowle. These, together with the pool at the Bristol Polytechnic, Ashley Down, which was already on our list, made a total of 26 swimming baths.

Outdoor collapsible "fill and empty" paddling pools at a number of junior schools were included during the few months when the ambient temperature permitted their use.

DRINKING WATER SAMPLING

During the first six months of the year the routine sampling of drinking water from the 14 points already established was continued uneventfully. However, at the end of June, two results indicated the presence of coliform organisms but normal sampling continued and preparations were made to implement a wider programme if it proved necessary. At the end of July, two samples from widely separated points were reported as positive *E. Coli* and following a meeting with the Medical Officer of Health and the Director of the Public Health Laboratory Service, the new arrangements introducing weekly sampling in place of the normal fortnightly routine were put into operation. In addition daily sampling for a period of one month from one location was also arranged. The results from all samples were carefully correlated and further meetings were convened with the Bristol Waterworks Company, the Medical Officer of Health and Dr. Cayton to discuss them.

The routine sampling continued until the end of the year and on only three further occasions were *E. Coli* reported but sporadic samples, 60 in all, indicated Coliform organisms present but these were non faecal in origin. Consideration of all the factors involved including high ambient temperatures and a low water level at reservoirs, did not provide any substantial evidence indicating the cause. It must be emphasised that those results reported as positive contained only the smallest number of organisms measurable and no specific location was affected.

ATMOSPHERIC POLLUTION

Smoke Control Areas

The prospects for the development of Bristol's smoke control programme appeared to be good at the end of 1969. At that time two further proposed Smoke Control Areas were being surveyed with the aim of making Orders which would become operative in 1972 and 1973. It was hoped that this work would expand during 1970, especially as it was European Conservation Year, a fact which should have brought about a greater public awareness of the dangers of air pollution and subsequently less resistance to the attempts which the local authority might make to reduce this pollution. These plans were shattered early in the new year when, during discussions with

representatives of the Solid Smokeless Fuels Federation, the Department was informed that a shortage of solid smokeless fuel was imminent and that no guarantee could be given for the winter season of 1970/71.

These predictions were soon proved correct as acute shortages of the premium fuels were experienced during February, March and April but the total overall supply of the authorised solid fuels in the City was 96% of the requirement, representing a shortage of only 4%. It is certain that a more acute shortage was experienced by individuals because of the panic purchasing by householders of solid smokeless fuel in excess of their normal requirements. This was aggravated by the over emphasis of the situation by the media of Press, Television and Radio. Throughout the heating season a careful watch was kept on the situation, advice was given with regard to the availability of authorised fuels and householders were urged not to be selective in their choice of solid smokeless fuel but to take any suitable fuel which was currently available.

Although none of the Smoke Control Orders was suspended during the 1969/70 heating season, it became evident as the year progressed that steps would have to be taken to safeguard residents in Smoke Control Areas for the 1970/1971 winter season. Consequently, in October three Smoke Control Orders, Nos. 6, 7 and 8, were suspended, thus releasing from control more than 22,000 dwellings. The effect of these Suspension Orders is to allow persons to purchase and burn bituminous coal in premises situated within smoke control areas without fear of committing an offence.

During the summer months, householders stockpiled solid smokeless fuel in readiness for the 1970/1971 heating season. This, together with the price reductions in June, July and August gave rise to a shortage of the premium fuels, a situation which has not been experienced in the summer for many years and which caused profound fears of a severe shortage during the coming winter. The problem did not, however, develop and no serious shortages have yet been experienced. It is hoped that matters will improve, aided by the lifting of the Government's ban on imported fuels and during the last week of the year one ship arrived in the City Dock with a cargo of smokeless fuel from the Continent. News that other similar consignments are on their way and that one of the local fuel suppliers is proposing to construct a carbonisation plant within the City, makes the prospect for 1971/1972 more encouraging.

Irrespective of the suspension of the No. 8 Order, works of adaptation to fireplaces continued throughout the year in both the Nos. 8 and 10 Smoke Control Areas. A total of 887 applications for grant were received, of which 671 were approved and of these 460 were in respect of works of replacement and adaptation in Corporation houses. The analysis of these applications in the table below shows the continuing trend towards the piped fuels, electricity and gas, which has been particularly pronounced in respect of applications by private householders.

No. 8 Smoke Control Area—1970

				<i>Housing Dept.</i>	<i>Private</i>	<i>Total</i>
Number of applications received ...	...	...	...	672	152	824
Number of applications approved ...	...	...	...	460	148	608
Method of heating installed:						
Full central heating by 1) Electricity	...	...	...	21	1	22
2) Oil	...	...	...	—	5	5
3) Gas	...	...	...	21	12	33
4) Solid fuel	...	...	...	29	13	42
Individual appliances:						
Electric fires/night storage heaters ...	...	...	...	99	49	148
Oil heaters ...	...	...	...	—	—	—
Gas room heaters ...	...	...	...	164	44	208
Solid fuel room heaters ...	...	...	...	59	14	73
Fan assisted/underfloor draught fires	...	...	...	—	29	29
Inset grates ...	...	...	...	1	18	19
Conversion sets ...	...	...	...	11	1	12

No. 10 Smoke Control Area—1970

				<i>Housing Dept.</i>	<i>Private</i>	<i>Total</i>
Number of applications received	—	63	63
Number of applications approved	—	63	63

Method of heating installed :

Full central heating by 1) Electricity	...	...	...	—	1	1
2) Oil	...	...	...	—	—	—
3) Gas	...	...	...	—	1	1
4) Solid fuel	...	...	...	—	3	3

Individual appliances :

Electric fires/night storage heaters	...	...	...	—	29	29
Oil heaters	...	...	...	—	—	—
Gas room heaters	...	...	...	—	73	73
Solid fuel room heaters	...	...	...	—	4	4
Fan assisted/underfloor draught fires	...	...	...	—	1	1
Inset grates	...	...	...	—	—	—
Conversion sets	...	...	...	—	—	—

Infringements of the Clean Air Acts

During the year a total of 426 visits were made in respect of smoke emissions which contravened the provisions of the Clean Air Acts. A further 1,792 follow-up visits were made to ensure compliance with the legislation and to inspect faulty boiler plant during repair or replacement, where this was found necessary. Recourse to Court action has only been necessary on three occasions this year. Of these, one resulted in a Nuisance Order being made in respect of a smoke nuisance and in another fines were imposed for contravention of Section 1 of the Clean Air Act 1956 by the emission of dark smoke from a vessel in Avonmouth Docks. The first case ever taken in the City under Section 1 of the 1968 Clean Air Act, in respect of the emission of dark smoke from the burning of trade waste at the rear of a supermarket, was dismissed because of an incorrectly worded summons. It is under this section of the Act that control is being exercised over the burning of waste rubber, PVC and cable at car breakers' yards and, at the present time, with several court cases pending, positive steps are being taken by at least one of the larger merchants to prevent dark smoke emissions by the provision of a specially designed reclaiming furnace which incorporates after-burners to consume smoke.

Grit, Dust and Fume

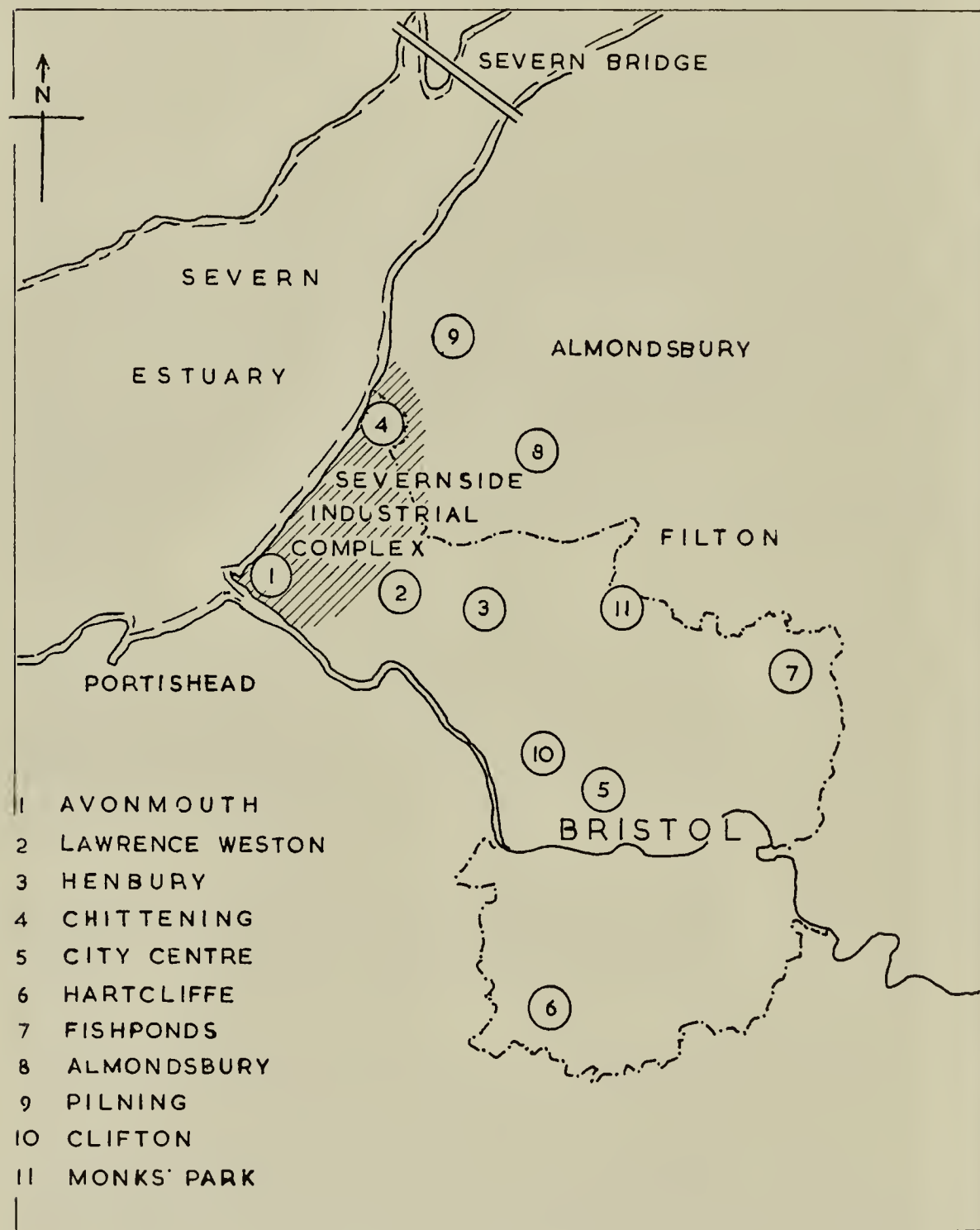
Three quite serious problems of grit, dust and fume emission have been dealt with this year. In January, suspicions were aroused that a small area in the City was prone to pollution by asbestos dust. These suspicions were investigated and were confirmed to the extent that small quantities of asbestos fibre were being deposited in the district, adjacent to a firm manufacturing brake lining and clutch assembly units. The factory was inspected, special attention being paid to the dust arrestment plant which was found to be inadequate and lacking in maintenance. Recommendations were made to the Management and the problem was resolved by replacing the existing wet bath dust arrestors with two new sets of bag filters at a cost of £15,000. It was reassuring to note that the asbestos used in this process was not the 'blue' type which is usually associated with lung cancer.

A similar cause was found to exist when complaints from householders living approximately half a mile from a metal treatment works were investigated. The subject of the complaints was metallic corrosion on buildings and vehicles and investigation revealed that the offending plant was a poorly maintained wet bath grit arrestor which serves a 'wheelabrator' shot blasting process. The plant has now been overhauled and is maintained weekly, it will, however, be kept under surveillance as the Specialist Inspector is not entirely satisfied with the standard of arrestment being obtained.

An attempt has been made during the last twelve months to overcome a serious fume and odour nuisance which has been troublesome over a period of years in the St. Philip's area of the City. The fume which is acrid and sickly to the senses is derived from a hot oven enamelling process for metal sheets and it was considered that the existing method of cleansing the fume by means of a water spray, was not the best practical means available for its treatment. The Company, in co-operation with the Department, is now in the process of carrying out tests with the injection, after the wet spray process, of a variety of Osmics according to the enamel being used which neutralise the fume. These tests to date are very encouraging and it is confidently predicted that a substantial improvement will be achieved in the New Year.

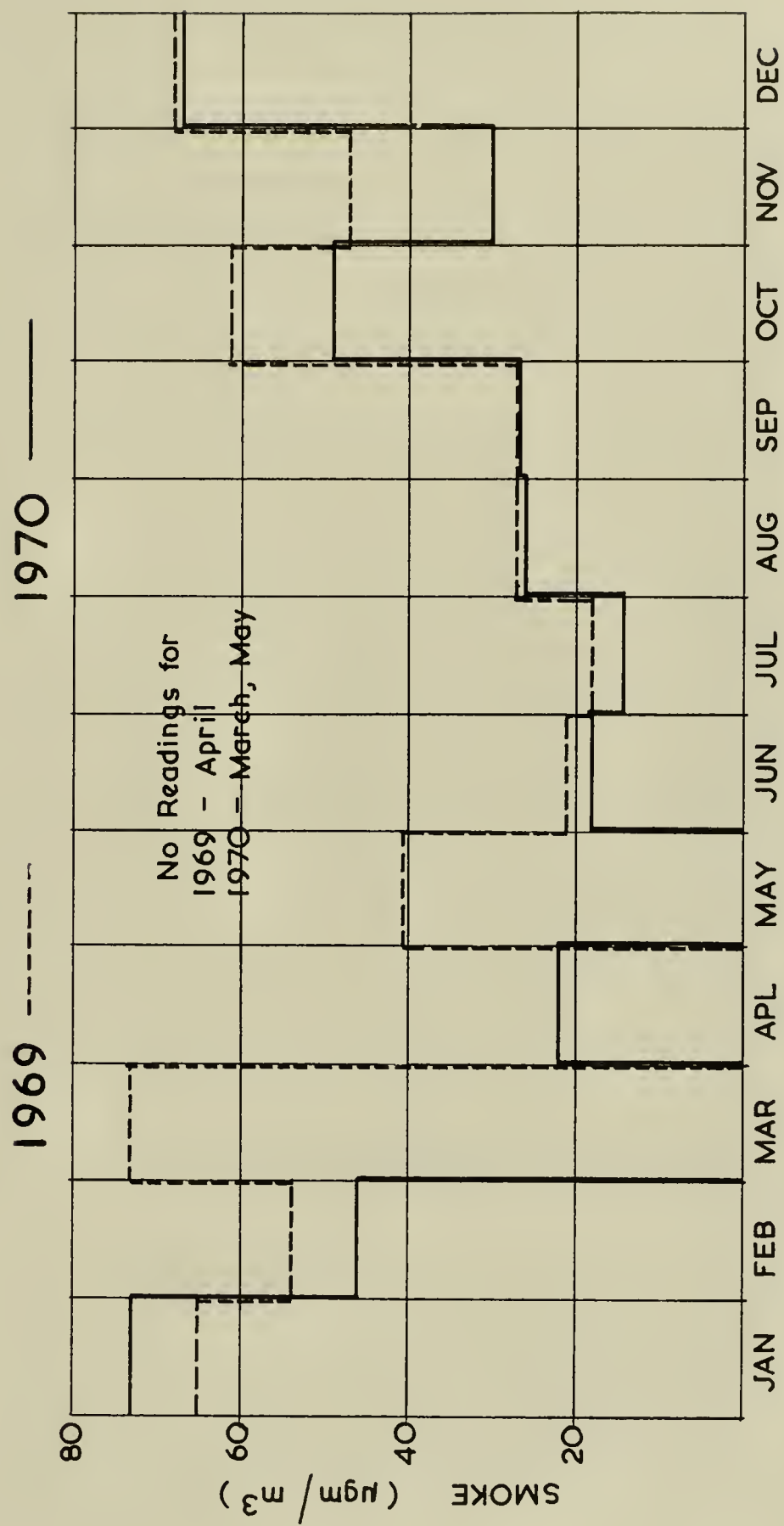
Air Pollution Monitoring

Much work has been carried out in improving the air pollution monitoring network. There are now seven monitoring stations each consisting of the semi-automatic eight port valve apparatus and two stations where the daily volumetric apparatus is in use. As can be seen from the map below, the sites of these stations were selected so as to obtain the maximum coverage of air pollution problems in the City. Four sites are to be found around the Avonmouth/Sevenside industrial complex, one in the City Centre, one in a smoke control area at Whitchurch on the south side of the City and one on the east side at Fishponds.



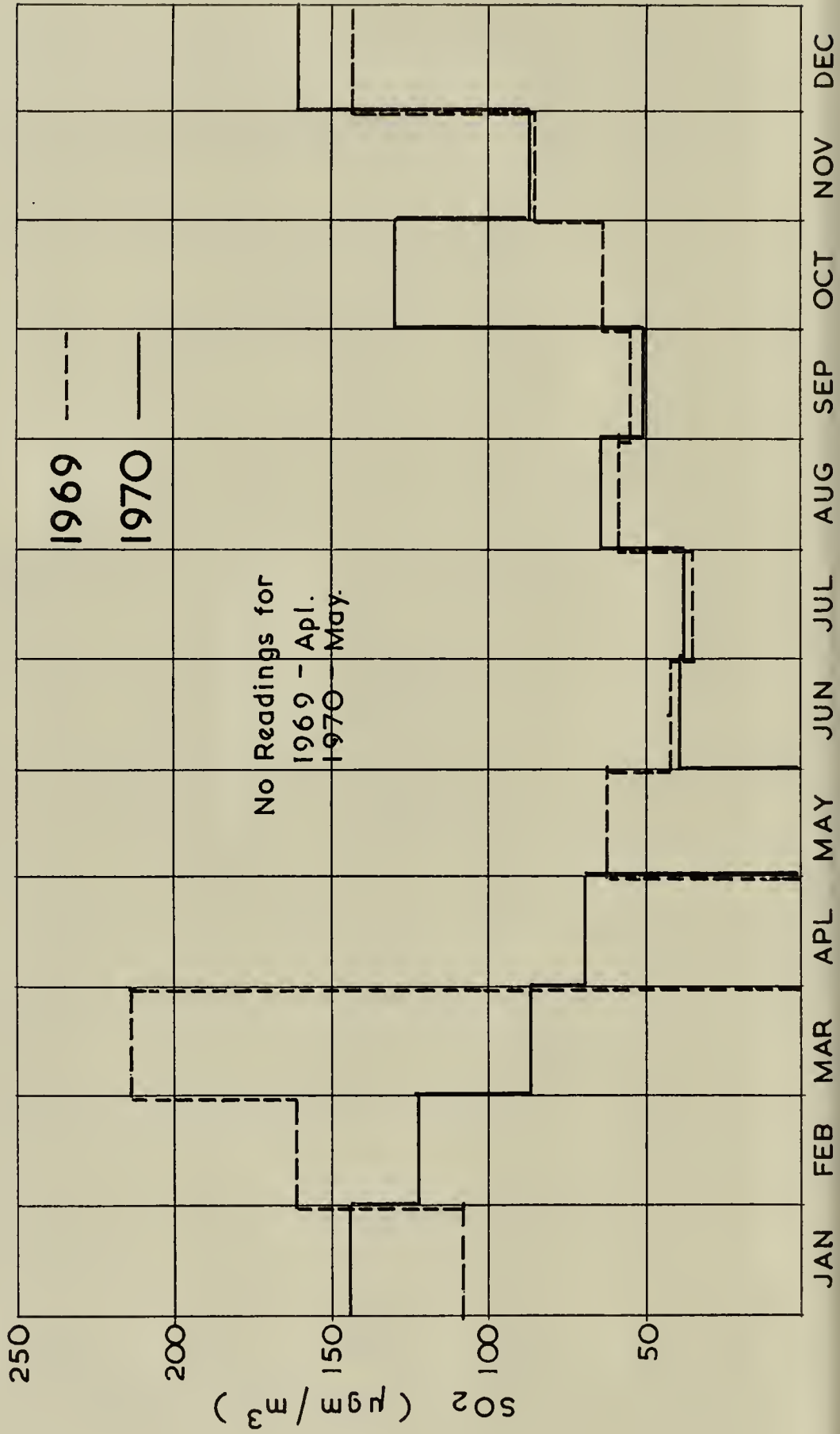
SMOKE CONCENTRATIONS AT CITY CENTRE

(N.S. SITE 21)



SULPHUR DIOXIDE CONCENTRATIONS AT CITY CENTRE

(N.S. SITE 21)



By co-operation with Thornbury Rural District Council, this monitoring network has been further expanded in relation to the industrial Severnside area by the installation of two further sets of equipment, one sited at the Zoo annexe Almondsbury, and the other at Pilning Fire Station. These sets of semi-automatic equipment, unlike the old daily volumetric equipment, have to be visited only once a week and monitor primarily the smoke and sulphur dioxide concentrations in the atmosphere. Trace elements and other substances may also be monitored as and when the need arises. The new semi-automatic monitoring equipment at the City Centre, unlike the other six new sites, replaces one of three sets of old equipment. The two remaining daily volumetric sets are to be found at Whatley Road and Monks Park School and will continue in use unchanged under the supervision of the City Scientific Adviser.

Although it is too soon to interpret results obtained so far, the equipment has shown that differing conditions on the same day are occurring in the different areas. In December there were occasions when inversion conditions prevailed, during which time the SO_2 levels on all the sites rose dramatically, as would be expected. At three sites in the Avonmouth area it was found on occasions that there was no free SO_2 to be found in the air during these inversion times. This indicates that the SO_2 was being neutralised by another chemical in the inversion layer, and it has been shown that this was due to the presence of free ammonia.

During the year, a portable set of semi-automatic air monitoring equipment was purchased and this will be used for the further investigation of phenomena, such as the presence of ammonia mentioned above.

New Furnaces and Boiler Plant

Notification in accordance with Section 3(3) of the Clean Air Act, 1956 was received in respect of 230 boiler and furnace installations in 123 premises. Of these notifications 30 involved applications for chimney height approval under the provisions of Section 6 of the 1968 Clean Air Act, of which 21 were approved without modification. Five applications were refused, however, as it was considered in each case, that the height of the chimney for which approval was sought was insufficient to adequately disperse the products of combustion. In all cases, a written notification of the Local Authority's decision was sent to the applicant and this stated the reasons for refusal, the lowest height which the Local Authority was prepared to accept and the conditions which would be imposed. All but one of the applicants have now re-applied conforming in all respects to the recommendations and have duly received approval.

It is significant to record the number of large developments which have been or are being constructed in the vicinity of the City Centre for which applications have been submitted in respect of chimneys to serve gas fired boiler plant. The increasing use of gas has been brought about partly by the active liaison which takes place between architects, heating consultants, and officers of the Department before applications are submitted, and partly because chimneys of a much lesser height can be used with this fuel. The development of the fan diluted flue system for use with boiler plant of up to 5 million Btu's/hr. maximum continuous rating has obviated the necessity for high chimneys. As long as the products of combustion are discharged into free air space and in a position where nuisance from odour and noise is unlikely to be caused, there is no objection to the flue terminating at roof level. The absence of a chimney protruding above the roof of a new office block has obvious appeal both to architects and City Planners who have always been very critical of chimney design and heights in modern development. This increased use of gas in the City Centre will undoubtedly bring about a resultant decrease in the amounts of SO_2 discharged to atmosphere and a total elimination of smoke from boiler plant, as gas, during the process of combustion, will produce only water vapour, carbon dioxide and a very slight trace of sulphur dioxide, and under no circumstances will smoke be produced.

ADMINISTRATION OF THE OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963

The Offices and Shops Section of the Department continues to be responsible for the operation of this legislation together with the enforcement of the Shops Acts and Young Persons Employment Act. The inspectorial staff consists of a Specialist Public Health Inspector, a Public Health Inspector, three Shops Inspectors and one Technical Assistant and an additional Public Health Inspector was seconded to the section temporarily in December. The Public Health Inspector, two of the Shops Inspectors and the Technical Assistant are all in possession of the Diploma of the Institute of Shops Acts Administration.

Although considerable time was spent investigating accidents, dealing with complaints and advising on the interpretation and application of the Act, the main work during the year has been the continuation of the second cycle of general inspections of all known offices and shops in the City. These inspections proceeded steadily throughout the year and they mostly involved premises inspected for the first time in 1967.

Registration of Premises

As will be seen from Table 26, 629 premises have been registered for the first time during the year. However, slightly more than this number of obsolete registrations have been noted and subsequently removed from the register, with the result that the total number of registered premises at the end of the year has fallen very slightly from 8,424 to 8,405. Most of the work of tracing the premises either newly or no longer within the scope of the Act has been done by the Technical Assistant thus bringing about the saving of the Inspectors' time when carrying out general inspections.

Inspections

During the year general inspections were carried out of 1,762 premises and a further 5,145 visits were made in connection with other matters. Experience indicates that the four year interval between general inspections is generally suitable as it avoids leaving new unregistered occupiers for too long a period during which an ignorance of the legislation can be pleaded or leaving occupiers already registered for so long that they forget their responsibilities under the Act.

The repeated general inspections have also shown the desirability of inspecting certain types of premises more frequently than once in four years and more thought will be given to this problem in the ensuing year.

Now that initial resistance and obstruction shown by some occupiers when finding that their premises were subject to occupational health, welfare and safety legislation has subsided, there is very little change from year to year in the reactions of employers and occupiers. The adverse reaction now most frequently encountered is to follow the Inspector's visit by a complaint about his behaviour to the Chief Public Health Inspector. Upon investigation the complaint usually proves to be completely unfounded and the inspection is nearly always carried out without recourse to legal action for obstruction.

Enforcement

Now that nearly all premises in the City which come within the scope of this legislation have received at least one general inspection, it was felt that there is not the necessity to spend as much time as in the past giving advice and guidance on the application of the Act. In a few cases, where advice has gone unheeded or where conditions gave rise to risk of serious injury, it was decided that offences should be reported to the appropriate Committee without further attempts to secure compliance by persuasion. This accounts for the considerable increase in the number and variety of charges laid before the Magistrates during the year. Of the fourteen defendants charged all except two pleaded guilty and the one charge which was dismissed was because of a difficulty in the presentation of the evidence with regard to handing out O.S.R. 9a booklets in connection with a charge relating to an abstract display offence. The fines which were imposed were generally higher than in the past and it is to be hoped that this indicates a more realistic attitude on the part of Magistrates towards the problems of the protection of staff at places of employment. It has also been found in the latter months of the year that the reporting of cases in the local press appears to increase the effectiveness of enforcement by persuasion.

As the regulations with regard to lifts and hoists become fully operational a number of lifts of doubtful vintage, design and construction have been found and these defy almost all attempts to bring them up to standard. Discussions between the occupier and the Department usually lead to the lift being taken out of use. Originally, considerable difficulty was experienced when carrying out routine inspections in the premises occupied by national organisations with regard to obtaining the prompt production of the competent person's report of lift examinations. It has been necessary on a number of occasions to point out that the report held in a head office in London, or some other part of the country, was not considered to be readily 'available for inspection' of premises situated in Bristol. Gradually photostat copies of the reports are being kept by local branch managers or alternatively reports are forwarded to the Department for perusal and subsequent return.

Accidents

The number of accidents reported during the year fell slightly from 220 to 201 and this contrasts with a considerable increase last year.

At the present time little classified information with regard to the degree of human error that is the primary cause of accidents is being obtained because of the high proportion of un-notified accidents, the impracticability of investigating all notified accidents and the fact that investigation and coding does not highlight human error. In order to overcome the difficulty of total investigation it is proposed to obtain some preliminary information in this field by investigating all accidents in one causation group. As investigations in the past have revealed numerous accidents involving falls where there has been no indication of obstruction of, or slippery surfaces to, floors, passages or staircases, no improper maintenance or poor lighting and no absence of handrails to staircases, 'falls to persons' may be a suitable field in which to carry out such an investigation.

THE ADMINISTRATION OF THE SHOPS ACTS AND KINDRED LEGISLATION

Another year has passed without any of the long overdue and much needed changes to the existing Shops Acts legislation being achieved. A further attempt to bring the law relating to Sunday trading more closely in line with modern practice was made by the introduction into Parliament of a Shops (Sunday Trading) Bill. This was based on recommendations contained in a report of the Departmental Committee on the law of Sunday Observance and it is hoped that this will eventually go some way towards solving some of the many problems of Sunday Trading.

Exemptions from the general closing hours requirement of the Shops Acts were granted in relation to the Bristol Flower Show, which was held at Durdham Downs in September, and an Ideal Home and Trade Exhibition held at the Victoria Rooms in August. There were requests from occupiers of two classes of 'shops' to be exempted from the requirements of the early closing day provisions of the Act. Both applications were considered favourably by the Committee and six day trading is now permissible by ladies' hairdressing shops in part of the Whiteladies Road area and by tailors and outfitters in the Baldwin Street, High Street and Clare Street area.

Investigation into the compliance with the Shops Acts, particularly in relation to the employment of young persons continues to be made in conjunction with routine inspections carried out under the Offices, Shops and Railway Premises Act, 1963. Relatively few complaints have been made during the year and much of the work in this field has involved the assisting of both employees and management who have sought guidance in the interpretation of the legislation.

Three talks on the subject of the administration of the Shops Acts were given to Overseas Labour Officers and Trade Union Officers from a variety of Countries including British Honduras, British Solomon Isles Protectorate, the United Arab Republic, the People's Republic of Southern Yemen, Kenya, Tanzania and Nigeria.

The Annual Conference of the Institute of Shops Acts Administration was held at Morecombe in October and was attended by the Specialist Inspector, Shops, Mr. K. C. Holden.

RAT DESTRUCTION

DISINFESTATION AND DISINFECTION

Once again the total number of complaints of rats and mice, 5,075, represents a slight increase over last year. However, before concluding that the situation with regard to rat and mouse infestation is deteriorating, certain factors should be taken into consideration. A separate analysis of the complaints relating to rats and mice reveal that 45% of the complaints relate to mice infestations and if the statistics for the past nine years are studied, the complaints of mice have increased from 19% in 1961 to 40% last year. When these statistics are taken into consideration it shows the number of complaints relating to rats in rather a different picture.

The situation with regard to mice continues to give rise to concern. Between the years 1956 and 1966 the number of complaints relating to mice was reduced by 50% but during the last four years complaints of mice have increased from 739 in 1967 to 2,230 this year. These complaints have been analysed in order to determine the reason for this increase and the prime reason must be the failure to control mice with the standard Warfarin rodenticides upon which we have come to rely. This problem is being experienced in many parts of the country and there is still no complete answer. As most of the preparations available to the general public are based on Warfarin, these

are of no use where Warfarin resistance is encountered and householders have been forced to seek more specialised assistance.

The policy of the Social Services Committee in providing free treatment for mice in dwelling houses because of this situation has resulted in an increased number of notifications. It has been found, however, that only 2% of the complaints of mice infestations were without substance, presumably because the householders concerned could not resist a free service. Recently, considerable publicity has been given to the mouse problem by the mass media and this has brought about a greater public awareness of mouse infestation. The mouse is undoubtedly an entertaining character on the television screen but is a troublesome and dangerous companion in the house. It can carry disease, it will destroy and contaminate foodstuffs and its gnawing activities can cause serious damage to gas and water services and to electric wiring. By virtue of the fact that the mouse lives in closer proximity to man than the rat, it could prove to be the more dangerous.

During the investigation of a complaint of rats at one of the schools in the City, the disused air raid shelters situated underneath the playground were inspected. This inspection revealed the presence of rats and a successful treatment was carried out. Following the discovery of rats in the shelters at this school, all such shelters in schools under the control of the Education Committee were inspected but no further rat infestations were found.

This year brought about an increase in the establishment of the Section and the designation of Rodent Operator was changed to Pest Control Operator. The routine work of the Section continued throughout the year with increased attention being given to the derelict areas awaiting demolition and development and also to void premises awaiting re-occupation.

Sewer Treatment

The treatment for rats in the City's sewers continued throughout the year and this is one part of rodent control which is now taken very much for granted. During the year 10,166 visits were made to manholes on the sewerage system and 6,714 manholes were declared free from infestation. Rats in sewers created fifty surface infestations and in each case the condition of the drainage system was investigated by the district inspector.

Other Pests

The service for the eradication of wasps nests has again been greatly appreciated and a total of 631 nests were treated and destroyed during the year. Treatment was refused in three instances when it was considered that the situation of the nests on very high roofs would cause undue risk to the safety of the operators.

Pigeon Control

The Department's proposals for the control of feral pigeons were finally agreed and accepted in the early months of the year and pigeon control became part of the Section's work on 1st June.

Initially all the 218 complainants who had contacted the Department before June were visited. A preliminary inspection was made in order to locate the infestation and to assess the best method of dealing with it. This often involves interviewing the occupiers of buildings other than the complainant and involves a considerable amount of discussion and explanation before treatment can be commenced. It must be emphasised that pigeon control has to be carried out with due regard to the feelings of the general public and in such a way that all can see that the work is being carried out humanely.

As this is the first time that this work has been carried out in the City, it might be pertinent to summarise the reasons for pigeon control. It has been established that feral pigeons can carry infectious diseases and, in fact, salmonella organisms have been isolated from samples of pigeon droppings taken from the centre of the City. In common with most wild life, pigeons have their parasites which will readily leave the normal host for more favourable conditions. For example, one large city office had to be disinfested when pigeon mites found the warm conditions of a centrally heated office to be more favourable than in a cold ventilation shaft. It has long been accepted that the facades of many buildings in the City have been spoiled by pigeon droppings which in some circumstances have a corrosive effect on the stone work. In addition, many instances have been found where roof gutters have become blocked with droppings to such an extent that in time of heavy rain they have overflowed causing severe dampness to the buildings.

Wherever possible special traps are used to catch birds alive in order that they can be removed from the site and examined to ascertain whether any ringed birds have been caught. Any ringed birds are returned to their owners through a member of the National Homing Union and the Department maintains a register of the numbers of birds so returned. Birds other than feral pigeons are released on site and the pigeons remaining are destroyed humanely.

There are, however, situations where it is not possible to use traps and where it would be dangerous for an operator to attempt to catch birds by hand. As a last resort, therefore, recourse is had to shooting and it is carried out by the use of a .22 single shot rifle.

DISINFECTION AND DISINFESTATION

As in previous years the disinfection and disinfestation work has made a most important contribution to the work of the Environmental Services Division. A wide range of work has been carried out during the year including the destruction of carcasses affected with Anthrax; the disinfestation and disinfection of houses, shops and prison cells and, in addition, a number of streams were sprayed in order to combat fly and mosquito infestations. The Disinfecting Station staff have maintained the soiled linen service during the year and have also been responsible for the collection and destruction of unfit foodstuffs from shops and warehouses in the City.

TABLE 1

ENVIRONMENTAL HEALTH INSPECTIONS (ALL LEGISLATION)

Complaints and enquiries received: 8,935

<i>Visits:</i>	<i>Visits</i>	<i>Revisits</i>	<i>Total</i>
Dwelling houses (Public Health)	6,299	14,826	21,125
Dwelling houses (Housing)	2,590	4,889	7,479
Multiple occupation	393	2,013	2,406
Common lodging houses	5	3	8
Factories—power	247	549	796
Factories—non-power	90	14	104
Outworkers	18	11	29
National Assistance Act, 1948	2	17	19
Nurseries/homes, etc.	42	53	95
Entertainment places	90	176	266
Moveable dwellings	116	673	789
Sites	567	3,296	3,863
Building sites	62	169	231
Injurious weeds	8	37	45
Offensive trades	110	9	119
Keeping of animals	54	108	162
Piggeries	39	3	42
Poultry	30	6	36
Pet Shops	85	11	96
Noise	469	1,934	2,403
Smoke observations	426	1,792	2,218
Smoke Control Area visits	5,251	2,249	8,500
Chimney height visits	150	64	214
Inspection of boiler plant and furnaces	180	53	233
Dust and effluvia	330	988	1,318
Health education	51	151	202
Court attendance	70	13	83
Flooding	28	35	63
All other matters	2,220	3,719	5,939
Food premises—registrable	689	1,157	1,846
Food premises—non-registrable	2,002	4,231	6,233
Food vehicles/stalls	293	619	912
Butchers' Shops	578	117	695
Meat markets	376	—	376
School kitchens	253	71	324
Cold stores	52	1	53
Food inspection	1,807	515	2,322
Visits re Containers (from June 1970)	21	28	49
Dairies	45	14	59
Ice cream manufacturers	20	8	28
Pharmacy and poisons	316	21	337
Rag flock	93	4	97

TABLE 1 (continued)

<i>Visits:</i>	<i>Visits</i>	<i>Revisits</i>	<i>Total</i>
Sampling	4,332	329	4,661
Infectious disease	47	18	65
Food poisoning	120	28	148
Food complaints	711	421	1,132
Offices	750	3	753
Retail shops	810	4	814
Wholesale shops and warehouses ..	82	3	85
Catering establishments and canteens ...	100	1	101
Other visits L.A. Circ. 5. para. 7 ...	4,332	553	4,885
Sunday Entertainment Act	15	1	16
Young persons (Employment) Acts ...	39	—	39
Shops Acts (retail)	2,297	62	2,359
Shops Acts (wholesale)	80	13	93
Totals ...	40,282	46,083	86,365

TABLE 2

SUMMARY OF NOTICES SERVED

(Excluding Housing Legislation)

	<i>Informal</i>		<i>Statutory</i>	
	<i>Served</i>	<i>Complied with</i>	<i>Served</i>	<i>Complied with</i>
Dwelling houses (Public Health)	338	240	104	79
Multiple occupation	21	17	2	2
Factories—power	23	22	4	3
Sites	1	1	—	—
Building sites	2	1	—	—
Keeping of animals	1	1	—	—
Noise	1	—	5	1
Smoke observations	1	—	—	—
Dust and effluvia	1	—	—	—
All other matters	—	2	—	—
Food premises—registrable	29	27	—	1
Food premises—non-registrable	207	177	7	1
Food vehicles/stalls	12	6	—	—
Butchers' shops ..	26	19	—	—
Offices	260	221	—	—
Retail shops	339	325	—	—
Wholesale shops and warehouses	38	21	—	—
Catering establishments and canteens ...	35	20	—	—
Sunday Entertainment Act	1	—	—	—
Shops Acts (retail)	1	1	—	—
Totals ...	1,337	1,101	122	87

TABLE 3

SUMMARY OF REMEDIAL ACTION

(Excluding Housing Legislation)

<i>Public Health</i>					
New drains laid	...	...	...	...	14
Drains repaired	...	...	...	...	144
Choked drains cleared	...	...	...	...	1,541
Tests made	...	...	...	...	171
Repairs/improvements to sanitary accommodation	...	...	...	...	109
Additional sanitary accommodation provided	..	...	...	...	5
Intervening vent. space provided	...	...	...	...	1
Cesspools abolished	...	...	...	...	2
New and additional water supplies	...	...	...	...	2
Hot water installed	...	...	...	...	4
New/additional sinks provided	...	...	...	...	3
Wash basins provided	...	...	...	...	7
Roofs repaired	...	...	...	...	143
Dampness remedied	...	...	...	...	253
Other new and repair works	...	...	...	...	357
Yards paved and drained	...	...	...	...	10
Other nuisances abated	...	...	...	...	238
Houses cleaned/fumigated	...	...	...	...	56
Food store installed	...	...	...	...	1
Lighting improved	...	...	...	...	4
Ventilation improved	...	...	...	...	12
Heating provided	...	...	...	...	5
Overcrowding abated	...	...	...	...	11
Exhumations	...	...	...	...	1
Keeping of animals—improvements	...	...	...	...	4
<i>Aged and Infirm Persons</i>					
Removals—voluntary	...	...	...	...	2
Removals—court order	...	...	...	...	3
Smoke infringements dealt with	...	...	...	...	56
Noise nuisance dealt with	...	...	...	...	128
All other matters	...	...	...	...	842
<i>Food Hygiene</i>					
Premises altered/repared	...	...	...	...	46
Premises decorated/cleansed	...	...	...	...	243
Hot water provided	...	...	...	...	40
Sinks provided	...	...	...	...	10
Wash hand basins provided	...	...	...	...	31
Sanitary accommodation provided	...	...	...	...	2
Sanitary accommodation improved	...	...	...	...	40
Personal requirements dealt with	...	...	...	...	21
Equipment improved/replaced	...	...	...	...	27
Contamination risk reduced	...	...	...	...	26
First aid provisions	...	...	...	...	24
Lighting improved	...	...	...	...	2
Refuse storage improved	...	...	...	...	16
Stalls/vehicles improved	...	...	...	...	2
Food transport improved	...	...	...	...	3
Ventilation improved	...	...	...	...	12
All other matters	...	...	...	...	146
<i>Offices and Shops</i>					
Premises cleaned/redecorated	...	...	...	...	62
Heating provided/improved	...	...	...	...	16
Ventilation improved	...	...	...	...	88
Lighting improved	...	...	...	...	28

TABLE 3 (continued)

Sanitary accommodation improved	113
Sanitary accommodation provided	26
Washing facilities improved	38
Washing facilities provided	37
Seats provided	3
Eating facilities provided/improved	3
Floors, passages, stairs repaired	192
Machinery fenced	59
Other safety measures provided	88
First aid provisions	216
All other matters	678

TABLE 4

PROSECUTIONS AND COURT APPEARANCES

Under the Public Health Act, 1936

Section 94	Accumulation of rubbish.	Order made requiring removal of rubbish forthwith.
Section 95	Failure to comply with Nuisance Order.	Case dismissed—owner unable to have works carried out as tenant denied builder access.
Section 94	Leaking roof and rotted window frame.	21 day Nuisance Order made.
Section 94	Various nuisances arising from structural defects.	Nuisance Order made.
Section 94	Various nuisances arising from structural defects.	Nuisance Order made for works to be executed forthwith.
Section 94	Leaking roofs, rising damp, fallen ceiling plaster.	28 day Nuisance Order made.
Section 94	Leaking main roof.	28 day Nuisance Order made.
Section 277	Failure to supply information with regard to a property.	Case dismissed because prosecution unable to produce in Court a certified copy of Council Minute delegating to Social Services Committee and copy of Social Services Committee Minute delegating to Sub-Committee. £20 costs awarded against Local Authority.
Section 94 and Section 1 of Noise Abatement Act, 1960.	Nuisance from noise and vibration at launderette.	Nuisance Order made for works to be completed within three months.
Section 95	Failure to comply with Nuisance Order.	Found guilty but no fine imposed.
Section 95	Failure to comply with Nuisance Order.	Fined £5.

Under the Housing Act, 1957

Section 27(1)	Use of premises in contravention of Closing Order.	Fined £2.
Section 27(1)	Using premises in contravention of Closing Order.	Pleaded guilty — given absolute discharge.
Section 16(6)	Use of premises in contravention of an undertaking not to use for human habitation.	Fined £10.
Section 16(6)	Permitting continued occupation in contravention of an undertaking not to use for human habitation.	Fined £5.

Under the Housing Act, 1964

Section 65(1)	Failure to comply with notice under Section 15, Housing Act, 1961 with regard to inadequate artificial lighting and no hot or cold water supply to bath or wash basin.	Fined £15.
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Under the Food and Drugs Act, 1955

Section 2	Channel Island milk deficient in milk fat.	Fined £40 and ordered to pay £5 costs.
Section 2	Steak and kidney pie containing mould.	Fined £25 and ordered to pay £5 costs.
Section 2	Piece of china in doughnut.	Pleaded guilty—granted absolute discharge.
Section 2	Wire in carton of yogurt.	Fined £50.
Sections 2 & 8	Mouldy Brazil Nuts.	Fined £10 under Section 2 and £15 under Section 8.
Section 2	Glass in bottle of milk.	Fined £25 and £1.10s.0d. costs.
Section 2	Piece of metal in steak pie.	Fined £25.
Section 2	Mouldy chestnuts.	Fined £20 and £1.3s.6d. costs.
Section 2	Chewing gum in bun ring.	Fined £5 plus £2 costs.
Section 2	Wooden splinters in wrapped, sliced loaf of bread.	Fined £25 plus £3 costs.
Section 2	Mouldy apple pies.	Fined £15.
Section 2	Butter beans sold as broad beans.	Case dismissed—copy of Public Analyst's certificate not served.
Section 2	Metal in apple strudel cake.	Fined £10.
Section 2	Mouldy chicken and ham pies.	Fined £20 plus £3 costs.

Under the Food Hygiene (General) Regulations, 1960

Regs. 14(1)(b), (2) and (4)(a); 23(1) (7 counts)	Sanitary convenience so placed as to enable offensive odours to penetrate into a food room; inadequate lighting and no ventilation to room containing a sanitary convenience; food room communicating directly with room containing a sanitary convenience; walls, floors, ceilings and windows of 5 food rooms dirty and not in such good order, repair and condition as to enable them to be effectively cleaned.	Fined a total of £94.
Reg. 6(1)	Wooden cake trays in dirty condition.	Fined £25 plus £5 costs.
Reg. 9(e)	Food handler smoking in a food room.	Fined £5.
Reg. 9(e)	Food handler smoking in a food room.	Fined £3.
Reg. 33(2)(b)	Permitting a food handler to smoke in a food room.	Fined £10.
Reg. 9(e)	Smoking whilst handling open food.	Fined £15.

Under the Food Hygiene (Markets, Stalls and Delivery Vehicles) Regulations, 1966 as amended

Regs. 13(1)(a); 16(2)	No name and address displayed on vehicle; no hot water supply.	Fined a total of £7.
Regs. 16(2), (4); 17; 18(b), (c)	No hot water to wash hand basin, basin not clean; no antiseptics provided; no hot water to equipment sink, sink not clean—hot dog stall.	Case dismissed—insufficient evidence as to ownership.
Regs. 16(2), (4); 18(b)	No hot water to wash hand basin, basin not clean; no hot water to sink.	Case dismissed—insufficient evidence as to ownership.
Regs. 13(1)(a); 16(3); 17 and 19	No name and address on hot dog stall; no nail brush provided; no first aid kit and no lighting to stall.	Fined total of £20. Subsequent appeal to Bristol Quarter Sessions dismissed but fines halved to total of £10. Appellant ordered to pay the costs of the appeal.

Under the Milk and Dairies (General) Regulations, 1959

Reg. 27(1)	Glass in bottle of milk.	Fined £40 and ordered to pay £5 costs.
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Under the Clean Air Act, 1956

Section 16	Nuisance from burning of waste materials.	Order made prohibiting a recurrence.
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Section 1	Emission of black smoke from vessel in Avonmouth Docks in contravention of the Dark Smoke (Permitted Periods) (Vessels) Regulations 1958—3 charges.	Master fined a total of £150.
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Under the Clean Air Act, 1968

Section 1	Emission of dark smoke from burning of refuse.	Case dismissed—summons issued under Section 16 of 1956 Act.
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Under the Offices, Shops and Railway Premises Act, 1963

Section 16(4)	Opening in floor not securely fenced.	Fined £50 plus £2 costs.
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Sections 4; 16(1) and (2); 17(1)	Dirty premises, slippery stairs, no handrail and stairs obstructed; unfenced machinery.	Fined a total of £63.
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Sections 17(1) and (4); 19(a), 19(2); 63 and 66	Gravity feed slicing machine not guarded; use of prescribed dangerous machine without proper training or supervision.	Firm: fined £100 plus £5 costs. Store Manager: fined £30.
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Sections 9(1) and 10	No sanitary conveniences or washing facilities.	Provisions Manager: fined £20. Fined a total of £10.
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Section 6(1)	Unreasonable temperature in shop.	Each of two defendants fined £5.
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Sections 6(4); 24(1) and 50(2)	No thermometer; No. 1 first aid box not provided; no abstract displayed.	Fined £5 on each of first two charges. Charge relating to abstract dismissed.
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Section 7(1)	Shop not ventilated.	Fined £10.
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Sections 4(2); 9(2); 16(1); 24(1); 50(1); 63; 64	Stairs and first floor landing not kept clean; W.C. not kept clean; rear yard surface slippery; no first aid box; no abstract displayed.	Fined a total of £160.
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Sections 4(1); 16(1); 63 and 64	Various surfaces not kept clean; rear store room floor not properly maintained.	Fined a total of £160.
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Sections 16(1); 63 and 64(2)	Trap door not of sound construction.	Fined £30.
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Under the Offices, Shops and Railway Premises (Hoists and Lifts) Regulations, 1968

Regs. 4; 5; 7(1) and (2); 8	Nut missing from shackle; no load hooks provided; liftway not protected by enclosure; no gates; safe working load not marked on lift.	Fined a total of £60.
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TABLE 5

FACTORIES ACT, 1961

Prescribed Particulars on the Administration of the Factories Act, 1961

PART I OF THE ACT

1. Inspections for purposes of provisions as to health (including inspections made by Public Health Inspectors).

Premises (1)	Number on Register (2)	Number of		
		Inspections (3)	Written Notices (4)	Occupiers Prosecuted (5)
(i) Factories in which Sections 1, 2, 3, 4 and 6 are to be enforced by Local Authorities	42	104	—	—
(ii) Factories not included in (i) in which Section 7 is enforced by the Local Authority	1,554	827	28	—
(iii) Other premises in which Section 7 is enforced by the Local Authority (excluding out-workers' premises) ...	96	231	2	—
Total ...	1,692	1,162	30	—

2. Cases in which defects were found.

Particulars (1)	Number of cases in which defects were found				No. of cases in which prosecutions were instituted (6)
	Found (2)	Remedied (3)	Referred to H.M. Inspector (4)	by H.M. Inspector (5)	
Want of cleanliness (S. 1) ...	3	3	—	—	—
Overcrowding (S. 2) ...	—	—	—	—	—
Unreasonable temperature (S. 3) ...	2	2	—	—	—
Inadequate ventilation (S. 4) ...	3	2	—	—	—
Ineffective drainage of floors (S. 6) ...	1	1	—	—	—
Sanitary conveniences (S. 7):					
(a) Insufficient ...	27	28	—	1	—
(b) Unsuitable or defective ...	79	79	—	—	—
(c) Not separate for sexes ...	5	5	—	—	—
Other offences against the Act (not including offences relating to Outwork) ...	1	—	—	—	—
Total ...	121	120	—	1	—

TABLE 6

FACTORIES ACT, 1961—PART VIII OF THE ACT—OUTWORK
(Sections 133 and 134)

Nature of work (1)	Section 133			Section 134		
	No. of outworkers in August list required by Section 133 (1) (c) (2)	No. of cases of default in sending lists to the Council (3)	No. of prosecutions for failure to supply lists (4)	No. of instances of work in unwholesome premises (5)	Notices served (6)	Prosecutions (7)
Wearing Apparel } Making, etc.	79	—	—	—	—	—
Cleaning and Washing	—	—	—	—	—	—
Furniture and Upholstery	2	—	—	—	—	—
Stuffed toys	2	—	—	—	—	—
Textile weaving	1	—	—	—	—	—
Total	84	—	—	—	—	—

In addition to the above, outworkers are also involved in the following occupations :

Occupation	No. of o/w's	Occupation	No. of o/w's
Making Dolls	2	Crotcheting ..	2
Painting Dolls	3	Embroidery ..	1
Christmas Card preparation	...	Fabric/Machinery	2
and packet labelling	...	Rug Making ..	1
Handicrafts ...	1	Sorting stamps	1
Rosettes ...	5	Decorating pots	1
Leatherwork	2		
Dolls Clothing	3		
...	7		
		Total	31

TABLE 7

HOUSING PROGRESS CHART

		From May 1955-1960	1961-1965	1966	1967	1968	1969	1970
Houses in Clearance Areas and already covered by operative Clearance Orders or Compulsory Purchase Orders ...	Pre-war 138 } Post-war up to 5.5.55 } 211	113	19	1	—	—	—	—
		72	—	—	—	—	—	—
Houses in Clearance Areas for which Clearance Orders or Compulsory Purchase Orders have been submitted to the Minister but have not yet become operative ...	Post-war up to 5.5.55 } 56	56	56	—	—	—	—	—
Number of houses subject to operative Demolition Orders ...	Pre-war up to 5.5.55 } 258	201	27	—	—	—	12	11
	Totals	442	46	1	—	—	12	11
Houses represented—Clearance Areas ...		3,592	746	13	64	46	4	—
Reported to Committee ...		—	425	6	10	16	3	—
Demolition Orders made on individual houses ...		157	27	2	10	6	9	11
Certificates of Unfitness—houses owned by Corporation ...		510	196	21	23	24	19	25
Undertakings given by owners to demolish ...		114	74	3	7	2	5	5
Unfit houses voluntarily demolished by Corporation and others ...		229	256	25	39	80	134	185
	Grand Totals	5,044	1,770	71	153	174	186	237

TABLE 8

ACTION UNDER HOUSING LEGISLATION

Houses inspected	1968	1969	1970
Section 9 ...	—	1	—
Section 16 ...	72	86	78
Section 18 ...	27	93	54
Clearance Areas ...	71	—	—
For Report to Committee ...	31	61	13
Multiple occupation ...	2	3	3
Totals ...	203	244	148

TABLE 8 (continued)

<i>Represented to Committee</i>										
Section 9	...	...	...	...	...	...	...	—	1	6
Section 16	...	...	...	...	...	...	...	80	62	76
Section 18	...	...	...	...	...	...	...	40	83	62
Clearance Areas	...	...	...	...	...	...	...	6	1	62
Reported to Committee as unfit	...	...	...	...	...	...	...	16	—	—
Reported to Committee—in multiple occupation	...	...	...	...	...	...	...	2	3	—
<i>Orders made</i>										
Demolition Orders—(Section 17, Housing Act, 1957)	...	...	...	...	...	...	...	6	9	11
Closing Orders—Whole House (Section 17, Housing Act, 1957)	...	...	...	...	...	...	...	54	49	56
Closing Orders—Whole House (Section 17 ss.3. Housing Act, 1957)	...	...	...	...	...	...	...	—	—	—
Closing Orders—Underground Rooms and parts of buildings (Section 18, Housing Act, 1957)	...	...	...	...	...	...	...	25	63	47
Management Orders (Section 12, Housing Act, 1961)	...	...	...	...	...	...	...	1	—	—
Direction Orders (Section 19, Housing Act, 1961)	...	...	...	...	...	...	...	—	—	—
Undertakings not to use—(Section 16, Housing Act, 1957)	...	...	...	...	...	...	...	2	7	1
Undertakings to demolish—Housing Act, 1957	...	...	...	...	...	...	...	2	5	5
Demolition Order substituted for a Closing Order (Section 28, Housing Act, 1957)	...	...	...	...	...	...	...	—	1	—
<i>Houses repaired</i>										
Section 9—informal	...	...	...	...	...	...	...	—	—	—
Section 9—formal	...	...	...	...	...	...	...	—	—	—
Section 9—formal by Corporation in default	...	...	...	...	...	...	...	—	—	—
Undertakings to repair	...	...	...	...	...	...	...	3	6	8
Undertakings not to use, cancelled after repair	...	...	...	...	...	...	...	3	—	—
Other repairs	...	...	...	...	...	...	...	—	—	15
Closing Orders determined after repair—whole building	...	...	...	...	...	...	...	32	44	35
part building	...	...	...	...	...	...	...	18	18	18
Demolition Orders revoked	...	...	...	...	...	...	...	—	—	—

TABLE 9

FOOD HYGIENE (GENERAL) REGULATIONS, 1960

(Summary of food premises subject to the Regulations grouped in categories of trade carried on in them)

<i>Trade</i>	<i>Number of Premises</i>
Restaurants and Cafes	342
Public Houses	443
Hotels—Boarding Houses	48
Clubs—places of entertainment	109
Fried Fish shops	123
Wet Fish shops	70
Grocers	674
Greengrocers	233
Supermarkets	90
Factory canteens	150
Wholesale food premises	73
Chemists	125
School Canteens	140
Flour and Sugar confectionery	644
Bakers	69
Butchers	274
Dairies (processing)	5
Ice-Cream manufacturers	8
Meat Products manufacturers	10
Other manufacturers (shell fish, etc.)	19

TABLE 10

SUMMARY OF TOTAL FOOD CONDEMNED

			<i>Tons</i>	<i>Cwts.</i>	<i>Qrs.</i>	<i>Lbs.</i>	<i>Cans</i>
Meat and offal	...	...	144	8	3	9	—
Meat (canned)	...	...	4	11	1	5	10,462
Fish	...	...	2	4	0	3	—
Fish (canned)	..	...	—	6	2	14	1,109
Poultry	...	...	1	9	3	24	—
Fruit and vegetables	..	...	119	5	0	21	—
Fruit and vegetables (canned)			17	5	2	17	22,237
Fruit (dried)	...	...	—	13	2	5	—
Other foods	...	...	38	6	3	6	—
Other foods (canned)	...		3	1	1	4	9,783
Totals	...		331	13	0	24	43,591

TABLE 11

TOTAL ANIMALS SLAUGHTERED

			<i>1968</i>	<i>1969</i>	<i>1970</i>	<i>Percentage difference</i>
Cattle	...	...	15,091	14,019	15,733	+ 12·23
Calves	...	...	1,032	625	555	— 11·20
Sheep	...	...	42,861	34,084	32,696	— 4·33
Pigs	...	...	17,469	17,765	20,123	+ 13·27
Pigs (Bacon Factory)	...		18,509	19,990	20,532	+ 2·71
Goats	...	...	7	8	10	+ 25·00
Totals	...		94,969	86,491	89,649	+ 3·65

TABLE 12

SAMPLES OF MEAT AND OFFAL FROM PET SHOPS

(a) <i>Horse Flesh</i>			<i>Number</i>		<i>Salmonellae</i>		<i>Percentage Positive</i>	
<i>Sample of</i>			<i>Raw</i>	<i>Cooked</i>	<i>Raw</i>	<i>Cooked</i>	<i>Raw</i>	<i>Cooked</i>
Tongue	...	...	2	—	—	—	—	—
Meat	...	...	48	6	6	1	12·50	16·66
Liver	...	...	39	—	2	—	5·13	—
Heart	...	...	15	—	—	—	—	—
Kidney	...	...	1	—	—	—	—	—
Spleen	...	...	1	—	—	—	—	—
Totals			106	6	8	1	7·54	16·66

TABLE 12 (continued)

(b) *Knacker Meat*

Meat	32	54	8	4	25.00	7.41
Liver	16	12	4	—	25.00	—
Heart	7	10	2	1	28.57	10.00
Kidney	11	4	1	—	9.09	—
Tongue	10	3	3	—	33.33	—
Misc.	5	1	1	—	20.00	—
Frozen Beef	3	—	2	—	66.66	—
Totals	84	84	21	5	25.00	5.95

(c) *Miscellaneous Samples*

Pig Mesenteric Glands ...	252	—	11	—	4.37	—
Pig Liver	252	—	8	—	3.17	—
Totals	504	—	19	—	3.77	—

TABLE 13

SAMPLES OF MEAT AND OFFAL FROM BUTCHERS' SHOPS/MEAT DEPOTS

<i>Origin</i>	<i>Butchers' Shops and Meat Depots</i>	<i>Salmonellae</i>	<i>Percentage Positive</i>
Beef—English	40	1	2.50
Bovine Liver—English	1	1	100
Minced Beef	15	—	—
Pork—English	39	1	2.59
Totals	95	3	3.16
Sewer swabs from slaughterhouse— number submitted	75	22	29.33
Samples of bedding from cattle lairs— number submitted	40	1	2.50

TABLE 14

PIG AND POULTRY KEEPERS

<i>Number</i>		<i>Use</i>	<i>Licensed to boil swill</i>		<i>Visits</i>	
1969	1970		1969	1970	1969	1970
13	12	Keeping pigs only	8	7	—	—
16	16	Keeping pigs and poultry ...	14	14	203	78
13	13	Keeping poultry only	3	3	—	—
42	41	Totals ...	25	24	203	78

TABLE 15

SAMPLING OF KNACKER MEAT AND OFFAL FROM PET SHOPS
FOR SIX YEARS 1965—1970

<i>Year</i>	<i>No. of Samples</i>	<i>Positive Salmonellae</i>	<i>Percentage positive</i>
1965	145	40	27·58
1966	102	16	15·69
1967	93	45	48·39
1968	204	34	16·66
1969	116	14	12·06
1970	168	26	15·48
Totals	828	175	21·13

TABLE 16

PUBLIC ABATTOIR AND BACON FACTORY
CARCASSES AND PART-CARCASSES—MEAT AND OFFAL CONDEMNED

A.—CARCASSES AND PART CARCASSES

Disease or condition	Cows		Steers and Heifers		Calves		Pigs		Sheep	
	Carcasses	Part Carcasses	Carcasses	Part Carcasses	Carcasses	Part Carcasses	Carcasses	Part Carcasses	Carcasses	Part Carcasses
Abscess ...	—	1	—	3	—	—	4	90	2	5
Anaemia ...	—	—	—	—	—	—	—	—	5	—
Arthritis ...	—	—	—	—	—	—	—	2	2	1
Bruising/Fractures ...	2	1	—	5	—	—	1	40	—	5
Emaciation/Oedema ...	6	—	—	—	—	—	4	—	58	—
Emphysema ...	—	—	—	—	—	—	—	2	—	—
Fevered ...	—	—	—	—	—	—	1	—	—	—
Jaundice ...	—	—	—	—	1	—	4	—	4	—
Malignant Neoplasms ...	2	—	—	—	—	—	—	—	1	—
Mastitis Acute Septic ...	1	—	—	—	—	—	—	—	1	—
Metritis (Acute Septic) ...	—	—	—	—	—	—	1	—	—	—
Moribund ...	—	—	—	—	—	—	—	—	4	—
Pericarditis (Acute Septic) ...	—	—	—	—	—	—	1	—	—	—
Peritonitis (Acute Septic) ...	1	—	—	—	1	—	3	—	4	—
Pleurisy and Peritonitis ...	1	—	—	—	—	—	34	—	1	—
Pleurisy (Acute Septic) ...	—	—	1	—	—	—	—	—	14	—
Pleurisy ...	—	—	—	1	—	—	4	48	—	1
Pyæmia ...	—	—	—	—	4	—	2	—	—	—
Septicaemia ...	4	—	—	—	2	—	18	—	13	—
Uraemia ...	1	—	—	—	—	—	—	—	—	—
TOTALS	18	2	1	9	8	79	182	109	12	—

B.—MEAT AND OFFAL

	1968			1969			1970			
	Tons	Cwts.	Qrs. Lbs.	Tons	Cwts.	Qrs. Lbs.	Tons	Cwts.	Qrs. Lbs.	
...	...	9	3	1	8	7	10	1	3	14
Public Abattoir—Carcass Meat	...	89	14	1	27	84	16	1	8	19
Public Abattoir—Offal	...	6	13	1	9	5	8	2	17	3
Bacon Factory—Carcass Meat	...	16	2	1	5	14	3	2	26	10
Bacon Factory—Offal
Total	...	121	13	1	21	111	19	0	24	110
										3
										2
										17

TABLE 17

SAMPLES SUBMITTED TO THE PUBLIC ANALYST

	<i>F</i>	<i>I</i>	<i>Samples</i>	<i>Unsatisfactory</i>
Milk	73	733	806	1
Ice-Cream ...	—	138	138	—
Other Foods ..	12	1,932	1,944	17
Medicines and Drugs	—	71	71	—
Rag Flock ...	—	48	48	—
Fertilisers and feeding stuffs ..	30	3	33	2
Water—swimming baths	—	196	196	21
—others	—	49	49	1
Miscellaneous	—	112	112	50
Totals ...	115	3,282	3,397	92

TABLE 18

SAMPLES SUBMITTED TO THE BACTERIOLOGICAL LABORATORY

	<i>Samples</i>	<i>Unsatisfactory</i>
Milk—T.B. examination and brucella abortus ...	60	7
Pasteurised ..	662	24
Sterilised ...	39	—
Untreated ...	80	18
Ultra heat treated ...	19	—
Schools ...	73	—
Plant tests ...	63	—
Churn and bottle tests	537	103
Shellfish ...	74	37
Water ...	614	64
Ice-Cream ...	213	66
Miscellaneous ...	65	4
Totals ...	2,499	323

TABLE 19

SUMMARY OF BIOLOGICAL EXAMINATIONS OF MILK
FOR BRUCELLOSIS AND TUBERCULOSIS

<i>Year</i>	<i>No. of samples found to be infected with Brucellosis</i>	<i>Tuberculosis</i>
1962/66	14 from 9 producers	Nil
1967	Nil	Nil
1968	2 from 2 producers	Nil
1969	2 from 2 producers	Nil
1970	7 from 1 Producer	Nil

TABLE 20

REGISTRATIONS

Under Section 16, Food and Drugs Act, 1955

The manufacture of Ice-Cream ..	...	...	13
The storage and sale of Ice-Cream ..	...	...	1,334
The preparation or manufacture of sausages or potted, pressed, pickled or preserved foods ..	...	...	340

Under the Milk and Dairies Regulations 1959

Dairies ...	...	...	47
Distributors ...	...	...	527

Under the Rag Flock and other Filling Materials Act, 1951

Registered to use filling materials ...	...	...	12
Licensed to store Rag Flock ...	...	...	6

Under the Pharmacy and Poisons Act, 1933

Listed sellers of Part II poisons	245
---------------------------------------	-----	-----	-----

TABLE 21

QUINQUENNIAL LICENCES UNDER THE MILK (SPECIAL DESIGNATION) REGULATIONS, 1963

				1966-70
				as at
				31.12.69
				as at
				31.12.70
To process pasteurised milk ...	...	...	9	5
To sell pasteurised milk ...	...	...	574	610
To process sterilised milk ...	...	...	2	1
To sell sterilised milk ...	...	...	580	607
To sell untreated milk ...	...	...	21	21
To sell ultra heat treated milk ...	...	...	17	23

TABLE 22

FOOD COMPLAINTS INVESTIGATED

FOREIGN BODIES

Commodity	Glass	Metal	Insects	Personal Items	Building Materials	Transit/Packing Materials	Others	Not true Foreign Bodies	TOTAL FOREIGN BODIES	Mould, etc.	Dirty, etc.	Incorrect Labelling/Misrepresentation	Abnormal smell/taste/colour	Others	GRAND TOTALS
General foods ...	2	—	16	1	—	2	18	1	40	7	1	1	13	3	65
General canned foods ...	2	—	9	—	—	—	3	1	15	8	—	—	6	—	29
Drinks (inc. ice-cream) ...	—	—	3	1	—	—	6	—	10	1	—	—	11	6	28
Milk ...	3	—	—	—	—	1	9	2	15	2	6	—	9	3	35
Bread ...	2	1	4	—	2	2	9	—	20	22	5	—	6	—	53
Confectionery (excl. meat products)	1	1	5	—	—	—	6	—	13	20	—	—	1	3	37
Meat and meat products ...	1	1	2	2	—	2	4	2	14	17	1	—	20	6	58
Canned meats ...	—	1	1	—	—	—	5	—	7	5	—	—	5	—	17
TOTALS ...	11	4	40	4	2	7	60	6	134	82	13	1	71	21	322

NOTES WITH REGARD TO TABLE 22

The table comprises (a) Complaints received direct from the public.

(b) complaints received from other authorities.

(c) defects, irregularities etc. noted as a result of routine sampling by the Inspectorate.

Foreign Bodies — “Personal Items”

Included under this heading are items of a personal nature which can be deemed to have entered the foodstuff as a result of inadequate personal hygiene and comprise cigarette ends, rubber gloves, hair, cigarette ash, coins.

“Building Materials”

Foreign bodies entered under this heading include stone, screws, nails, wood and wire. These complaints are attributable to building or repair work being carried out at the place of manufacture or to misuse of such items as bottles followed by inadequate cleansing or rejection.

“Transit and Packing Materials”

Such items as string, brown paper, elastic bands, drawing pins, all being connected with either the transit and packing of the finished product or of some ingredient thereof.

“Not True Foreign Bodies”

This heading includes items which are of the nature of the product but are not of the quality or substance normally demanded. Examples include globules of fat, scorched particles of powder, fish skin, soiled dough etc.

TABLE 23

RAT DESTRUCTION AND DISINFESTATION

Total number of complaints received during the year:

Rats 2,845 Mice 2,230

Complaints not finally dealt with by 31st December 1969: 3,043

<i>Analysis of above complaints:</i>	<i>Business Premises</i>	<i>Dwelling Houses</i>	<i>Local Authority Premises</i>	<i>Total</i>
No action required following inspection ...	89	390	42	521
Cleared by department	1,094	2,764	634	4,492
Cleared by occupier	75	196	8	279
Not finally dealt with (carry forward to 1971)	101	426	31	558
Totals ...	1,359	3,776	715	5,850

Visits and revisits for all purposes:

In respect of notifications under Part 1, Sec. 2.

Prevention of Damage by Pests Act, 1949 15,165

Routine inspections:

Ship inspections—Avonmouth (visits and revisits) ...	1,529
Avonmouth Dock	2,518
Portishead Dock	6
City Docks	183
City Airport	21
River/Canal Bank	39
Waste ground, vacant sites, etc	610
Business premises (building sites, etc.)	283
Wasp nest destruction	631
Miscellaneous visits	1,702
Sewer treatment programme	24,546
Total ...	47,233

PIGEON CONTROL

1970

No. of complaints received	545
No. of visits made	2,581

TABLE 24

DISINFECTION

Disinfection, Drain Tests, etc.

Total number of premises visited for all purposes including disinfection and

disinfestation	25,005
Articles disinfected	49,669
Articles disinfested	1,635
Articles destroyed	627
Cleansing of verminous persons (baths)	62
Scabies Baths	1
Disinfections for Hospitals and Nursing Homes	12
Public Library books collected and disinfected	11
Foodstuffs, etc., collected and destroyed—	
No. of cans	48,569
Other foodstuffs (lbs.)	17,668
Premises visited	283
Drain tests	27
Soiled linen service visits	16,403
(articles collected, laundered and returned)	40,673
Other work (visits or journeys unclassified)	6,460
Total vehicle mileage for all purposes	33,137

TABLE 25
ATMOSPHERIC POLLUTION—SMOKE CONTROL ORDERS

<i>SMOKE CONTROL ORDERS</i>		<i>Domestic</i>	<i>Commercial</i>	<i>Industrial</i>	<i>Other</i>	<i>Total</i>	<i>Acreage of Area</i>	<i>Date Order Made</i>	<i>Date Order Confirmed</i>	<i>Date Order in Operation</i>
No. 1	...	315	1,053	109	33	1,510	220	9.12.58	24. 3.59	1.10.59
No. 2	...	113	79	34	12	238	50	24. 5.60	9. 9.60	1. 9.61
No. 3	...	438	582	18	39	1,077	100	24. 5.60	9. 9.60	1. 9.61
No. 4	...	632	113	12	10	767	100	24. 5.60	9. 9.60	1. 9.61
No. 5	...	27	15	1	5	48	15	24. 5.60	9. 9.60	1. 9.61
No. 6	...	10,625	149	27	31	10,832	3,000	13. 9.60	11. 5.61	1. 9.62
No. 7	...	3,523	81	5	24	3,633	1,580	11.12.62	16. 7.63	1.10.64
No. 8	...	8,276	177	17	75	8,545	2,150	23. 5.67	18. 4.68	1.10.70
No. 9	Making of this Order has been deferred by the Council.									
No. 10	...	1,794	181	44	28	2,047	304	10. 6.69	7.10.69	1.10.71
Total	...	25,743	2,430	267	257	28,697	7,519			

TABLE 26**OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963****(Registrations—General Inspections)**

Number of premises registered during the year	...	...	629
Total number of registered premises at the end of the year	...	...	8,405
Number of registered premises receiving an inspection during the year	...	...	1,728

TABLE 27**OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963****(Number of visits of all kinds by inspectors to registered premises)**

Offices	...	...	...	...	...	...	750
Retail shops	...	...	...	...	...	...	810
Wholesale shops and warehouses	...	...	...	...	...	...	82
Catering establishments and canteens	...	...	...	...	...	...	100
Fuel storage depots	...	...	...	...	...	...	—
Other visits L.A. Circ. 5. Para. 7	...	...	...	...	...	...	4,332

TABLE 28**OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963****(Analysis of persons employed by workplace)**

Offices	...	...	...	...	...	...	495,500
Retail shops	...	...	...	...	...	...	20,348
Wholesale departments, warehouses ..	...	...	...	...	...	...	496
Catering establishments open to the public	...	...	...	...	...	...	17
Canteens	...	...	...	...	...	...	147
Fuel storage depots	...	...	...	...	...	...	6
Total							516,514

TABLE 29**OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963****(Exemptions)**

Total number of exemptions granted	Nil
------------------------------------	-----	-----	-----	-----

TABLE 30

OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963

(Prosecutions instituted of which the hearings were completed in 1969)

<i>Section Nos.</i>	<i>No. of informations laid</i>	<i>No. of informations leading to a conviction</i>
4	6	6
6	3	3
7	1	1
9	2	2
10	1	1
16	8	8
17	3	3
19	4	4
24	2	2
50	2	1
Hoists & Lifts Reg. 1968	3	3
Total	35	34

No. of persons or Companies prosecuted	...	...	...	...	14
No. of Complaints under Section 22	...	...	...	...	Nil
Interim Orders granted	...	...	...	...	Nil

TABLE 31

OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963

(Accident Reports)

Total No. of accidents reported to the Local Authority ... 201

TABLE 32

SHOPS ACTS, 1950/65

<i>Visits</i>	Retail	...	...	...	...	2,297
	Wholesale	...	...	...	...	80
<i>Revisits</i>	Retail	...	...	...	...	62
	Wholesale	...	...	...	...	13
<i>Infringements</i>	Failure to exhibit notices	...	...	...	...	323
	Closing hours	...	...	...	...	50
	Meal intervals	...	...	...	...	1

SUNDAY ENTERTAINMENT ACT—CINEMAS

<i>Visits</i>	15
<i>Revisits</i>	1

YOUNG PERSONS (EMPLOYMENT) ACT, 1938

<i>Visits</i>	39
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THE REPORT OF THE SCIENTIFIC ADVISER AND OFFICIAL AGRICULTURAL ANALYST FOR THE CITY AND COUNTY OF BRISTOL FOR THE YEAR 1970

Incorporating the work on behalf of the County of Gloucester and the City of Gloucester

E. G. Whittle, B.Sc.(London), M.Chem.A., F.R.I.C.

INTRODUCTION

This report is the eleventh since the return of the Department to full Corporation in 1960 and my twenty-fourth since appointment as Public Analyst in 1947.

The overall number of examinations was 10,875, including 263 smoke recordings. The "true" sampling rate is therefore 10,612. The 1969 total was 9,914.

1970 was Conservation Year and in the later half of the year we in the laboratory became acutely conscious of this in the many problems which came our way. These included the examination of the effluent which the British Steel Corporation proposed to discharge into the Severn Estuary near Portishead. This proposal caused several high level meetings and eventually questions in the House. This problem was still unresolved by the end of the year and will continue well into 1971.

Problems of Air Pollution arose in the Avonmouth area as a result of alleged deaths of horses and illness in cattle. Lead was the obvious major problem and this was primarily sought in samples of milk. Vegetation inside and outside the Avonmouth complex were examined for lead, zinc and cadmium as were smoke stains taken from the continuous smoke and sulphur dioxide apparatus, together with the various rainwaters from gauges in the surrounding areas. The whole matter was the subject of a special report to the Town Clerk early in 1971. The survey will continue and will include examination of urines and probably bloods for lead from individuals. The scale upon which we were able to conduct the Avonmouth survey was made possible by the acquisition of Atomic Absorption apparatus in April. By the time the Avonmouth problem was upon us in November we were well geared to accept the work.

Work for Gloucester County was well maintained and in the latter part of the year samples of cigarettes and tobacco were examined for possible residues of DDT and BHC. Accepting such samples as drugs, we were interested to know what contribution these might make to the general intake of these two pesticides. The results were most intriguing and are the subject of a separate report later in this document. As a development of this work we propose, with full co-operation of the County Medical Officer and the City Medical Officer to examine samples of body fats for pesticide residues in an attempt to assess the possible uptake of smokers and non-smokers.

Later in the year also came the scare concerning mercury residues in canned tuna fish. After preliminary investigations by the Government Laboratory the Minister of Agriculture, Fisheries and Food announced that he did not propose to stop the sale of tuna fish but it was agreed to institute a programme of sampling of many fish products for not only mercury but certain other metals also. When the scare was at its height I succeeded in initiating a scheme upon these lines even before the Minister's statement. With the generous and willing co-operation of the Zone 3 Laboratories of the South West I hope to have something like a hundred results on a wide range of fish products both canned and fresh and which will have been examined not only for mercury, total and as methyl mercury, together with lead, zinc, arsenic, copper and cadmium. This effort presupposes that the laboratories concerned will have or have access to atomic absorption techniques for the bulk of the work. The very willing co-operation of the laboratories of the South West gives me the opportunity of first thanking all concerned for their help and secondly to comment on the very lively and worthwhile meetings we have had in the Zone for over three years, that is with two meetings each year in or near the locations of the laboratories concerned. Not only has this been of the greatest help to the heads of the laboratories but it has brought together Associate members of the Association of Public Analysts who now know each other well and who are not as in the past just names in other laboratories. I am delighted with the progress we have made because I foresaw the value of the Zone arrangements which arose from the earlier pesticide surveys of 1967 and 1968. I trust that our enthusiasm will not wane and that our biannual meetings will long continue.

I concluded my two year term of office as President of the Association of Public Analysts in May and I would thank all concerned who helped me during those two years.

The Introduction to the Annual Report gives me the opportunity to thank the staff for all their help and co-operation. I feel that we now have an excellent team full of enthusiasm and keenly interested in all that is going on in the analytical world. They have all willingly accepted numerous extra tasks and have played a great part in a very successful year's work.

Finally, I thank all members of the Inspectorate staffs with whom we are in daily contact. It has been a pleasure to work with them all not only to exchange views and ideas on our work but also to appreciate their own efforts towards our common task in safeguarding the public.

**SUMMARY OF SAMPLES EXAMINED DURING THE YEAR ENDED
31st DECEMBER, 1970, FOR THE CITY AND COUNTY OF
BRISTOL, THE COUNTY OF GLOUCESTER AND THE CITY OF GLOUCESTER**

	<i>Bristol</i>	<i>Gloucester County</i>	<i>Gloucester City</i>
Milk	787	1,055	23
Food and Drugs	2,187	923	271
Waters, Swimming Baths and Effluents	319	57	5
Fertilisers and Feeding Stuffs	—	185	32
City	32	—	—
Avonmouth	328	—	—
Miscellaneous Samples	557	107	9
Port Health	609	—	—
	<hr/> 4,819	<hr/> 2,327	<hr/> 340
Rag Flock	48	—	—
District Inspectors' Samples	86	—	—
Pharmacy and Poisons Act	—	1	—
Spectrophotometric Analyses	749	51	18
Gas Liquid Chromatography	10	306	12
Atomic Absorption	221	53	3
Chlorination	285	61	1
Trade Description Act	—	125	—
Toys (Safety) Regulations	7	20	—
Silage	—	6	—
Cosmetics	—	12	—
Environmental Surveys			
Lead Peroxide	72	24	—
Deposit Gauges	71	24	11
Dust Nuisances	103	7	—
Smoke Recordings	639	263	—
Avonmouth Survey, Milk and Vegetable only	87	—	—
Special Surveys	22	19	—
	<hr/> 2,400	<hr/> 972	<hr/> 45
	<hr/> 7,219	<hr/> 3,299	<hr/> 385
GRAND TOTAL ...	10,903		

FOOD AND DRUGS ACT

New Legislation, Definitions, Reports and Recommendations

The year started with the appearance of the Cheese Regulations, 1970, which re-enacted the 1965 Regulations, as amended, and came into operation on the 31st January, 1970.

The Regulations :—

- (a) specify requirements for the composition and description of cheese including hard cheese, soft cheese (including cream cheese), whey cheese, processed cheese and cheese spread, amended to prescribe compositional standards for additional varieties of cheese, or processed cheese sold under varietal names.

- (b) apply compositional requirements for cheese, processed cheese or cheese spread sold as part of a compound product.
- (c) specify the permitted ingredients in cheese, processed cheese and cheese spread, amended to include calcium hydroxide as a permitted ingredient.
- (d) specify requirements for the labelling and advertisement of cheese, processed cheese or cheese spread and compound products.
- (e) provide for further amendments on labelling for such articles after 1st January, 1973.

The Labelling of Food Regulations, 1970 revoked the 1967 Regulations on the 31st March, 1970, and in due course on the 1st January, 1973 will supersede the Labelling of Food Order, 1953.

The principal changes are that the 1970 Regulations :—

- (a) amend the provisions relating to the labelling of pre-packed for sale by retail, or otherwise than by retail, and the list of foods to which they apply.
- (b) impose requirements as to labelling of foods for sale by retail which are not pre-packed.
- (c) impose requirements as to the advertisement of food for sale from vending machines.
- (d) impose restrictions on the use of the words "milk", "butter" and "cream" on labels or in advertisement.
- (e) impose restrictions on various nutritional claims and the presence of vitamins and minerals.
- (f) impose restrictions on claims that foods are starch reduced or can aid slimming and prohibit claims that foods have specific weight reducing properties.
- (g) impose restrictions on claims that foods are suitable, or have been specially prepared for diabetics and on foods that have tonic, restorative or medicinal properties.

The regulations also contain provisions as to the labelling and advertisement of acetic acid, chocolate confectionery containing intoxicating liquor, dried and dehydrated food, dry mixes, intoxicating and other liquor, tenderised meat and processed peas and also the labelling and advertisement of foods in respect of flavours.

The regulations further amend the Labelling of Food Order, 1953 with respect to the designation of permitted artificial sweetener when used as a food ingredient and also with respect to presentation of description under the Fish and Meat Spreadable Products Regulations, 1968.

The Food Standards (Cream) Order, 1951 were superseded on 1st June, 1970 by Cream Regulations, 1970 and the principal provisions of the new regulations are to :—

- (a) specify requirements for the description and composition of cream. These include a few designations and the compositions are as follows :—

"Clotted Cream" containing not less than 55% milk fat

"Double Cream" " " " " 48% milk fat

The designation "thick" may be used as an alternative to "Double" until 29th February, 1972.

"Whipping Cream" containing not less than 35% milk fat

"Whipped Cream" " " " " 35% milk fat

"Sterilised Cream" " " " " 23% milk fat

The Word "sterilised" may be omitted up till 29th February, 1972.

"Cream" or "Single Cream" containing not less than 18% milk fat

"Sterilised Half Cream" " " " " 12% milk fat

"Half Cream" " " " " 12% milk fat

- (b) specify permitted added ingredients for cream, subject to specified limits and make consequential amendments to the Emulsifiers and Stabilisers in Food Regulations, 1962. These substances include nisin in clotted cream, sodium alginate, sodium bicarbonate, tetrasodium pyrophosphate alginic acid, sodium carboxymethyl cellulose, carrageenan and gelatine in whipped cream, nitrous oxide and sugar in whipped cream contained in an aerosol container, glyceryl monostearate in cream in an aerosol container, calcium chloride, sodium or potassium salts of carbonic acid, citric acid or orthophosphoric acid in sterilised or ultra heated cream. There is also provision for the inclusion of sugar in cream for use in confectionery and in whipping cream.
- (c) specify requirements for the labelling and advertisement of cream.
- (d) provide that certain requirements relating to the description and composition of cream.

The Emulsifiers and Stabilisers in Food Regulations, 1970 further amended the 1962 Regulations by removing brominated vegetable oils from the list of emulsifiers and stabilisers permitted for use in food as from the 1st September, 1970.

Two reports by the Food additives and Contaminants Committee were published in May.

The first dealt with recommendations on revisions to the permitted list of emulsifiers and stabilisers and the second with the problem of the leaching of substances from packaging materials. It was decided that more factual evidence of the levels of migration was necessary before a control system could be instituted.

A further amendment to the Colouring Matter in Food Regulations occurred in July which removed yet another colouring matter, "Ponceau MX" from the permitted list as from 1st January, 1971.

The Soft Drinks (Amendment) Regulations, 1970 came into operation on 3rd November, 1970 and they extended by one year, ending with 31st December, 1971, the period during which the words "permitted artificial sweetener" may appear in place of the word "saccharin" on a label on a container of any soft drink which contains a permitted artificial sweetener.

On the 9th December, the Food Standards Committee issued a report dealing with seven compositional orders made before the 1955 Food and Drugs Act came into operation. The orders concerned Baking Powder and Golden Raising Powder, Edible Gelatine, Mustard, Curry Powder, Tomato Ketchup, Fish Cakes and Suet. The main recommendations were :—

- (a) The orders relating to Baking Powder and Golden Raising Powder, Edible Gelatine, Mustard and Curry Powder should be revoked.
- (b) Certain provisions should be laid down as regards labelling.
- (c) The minimum content of tomato solids should be increased from 6% to 8% in tomato ketchup and that the specific control on the copper level be relaxed.
- (d) The minimum fish content of Fish Cakes should be increased from 35% to 40% and that the product be defined.
- (e) Statutory control of Suet should continue with the existing beef fat contents and that provision should be made for the inclusion of an antioxidant.
- (f) Further consideration should be given to the need for statutory control of coated fish products.

Agriculture

The Fertiliser and Feeding Stuffs (Amendment) Regulations, 1970 were laid before Parliament on the 11th March, 1970 and came into operation on 1st October, 1970.

They introduce an additional limit of variation for high concentration compound fertilisers; revise methods of sampling fertilisers and feeding stuffs in liquid form; prescribe methods of analysis for certain prophylactics added to feeding stuffs; add a new composite entry in Schedule 2 covering dried distillery by-products and lay down methods of analysis for calcium in these products; introduce implied definitions for "Kainit" and "Magnesium Kainit" and effect certain minor revisions to Schedule 4 and 8.

The Agriculture Act, 1970 came into being in May 1970 and the Minister of Agriculture, Fisheries and Food published notes pointing out the differences in Part IV of the Act and the Fertiliser and Feeding Stuffs Act, 1926 which it replaces.

Recommendations for the safe use of various compounds in agriculture and food storage were published by the Ministry during the year.

The compounds described were crotoxyphos, carbophenothion, permaguard L, N¹-(3-chloro-4methylphenyl)-NN-dimethylurea, fenitrothion, aminotriazole, nicotine, S-(2-chloro-1-phthalimidoethyl) diethyl phosphorothiolothionate, bioallethrin, propoxur, dimexan, dimethirimol, phenylmercury acetate liquid seed dressing, methidathion, methyl N-benzimidazol-2-YL-N-(butyl-carbonyl) carbamate, dithianon, carbaryl, tetramisole, stresnil, pirimicare, propineb, phosmet, chlorthiamid, propachlor, aluminium ammonium sulphate, iodine, dioxathion, azinphos - methyl, chlorfenvinphos, allethrin, pyrethrum, organomercury compounds, para-formaldehyde/gamma-BHC, thiabendazole, bromophos, dichlorobenil, cycloheximide, chlorpropham, morantel tartrate and diethyl-carbamazine, chlorophacinone, warfarin, covmatetralyl, ethirimol, tri-allate, dieldrin, heptachlor, TDE, chlordane, DDT.

FOOD AND DRUGS ACT, 1955

The adulteration rate for the year for the City was :—

Total number of samples	...	...	...	2,974
Ordinary milk	...	...	...	Nil
Channel Islands milk	...	...	...	0·8
Foods	...	...	...	0·5
Drugs	...	...	...	Nil
Total	...	...	...	0·4

SUMMARY OF MILK ANALYSES

(Bristol Only)

Total milks (ordinary and Channel Islands)	787
Formal milks	68
Fat deficient (ordinary)	Nil
Added water (ordinary)	Nil
Abnormal NFS	Nil
Poor quality—just less than 3 per cent ...	Nil
Channel Islands (satisfactory)	125
Channel Islands (unsatisfactory)	1
School milks	30
Separated milk	1

This represents a remarkable and very satisfactory year of milk sampling. Of the 787 samples only one, a Channel Islands milk was reported as 7·5 per cent deficient in fat. Otherwise there was no evidence of any fat deficiencies in ordinary milks, no instances of added water or abnormality and no poor quality milks. 30 school milks were also of satisfactory quality and composition.

ADULTERATED SAMPLES OTHER THAN MILK

VD.15	Mandarin Orange Drink	Contained 0·05 per cent of cyclamic acid which was prohibited in soft drinks as from 1st January, 1970.
WD.78	Bananade	Contained 0·028 per cent of cyclamic acid.
WD.84	Tropical Lemon	Contained 0·018 per cent of cyclamic acid.
WD.92	Orange Squash	Contained 0·23 per cent of cyclamic acid.
WD.99	Tropical Orange	Contained 0·023 per cent of cyclamic acid.
XD.125	Pasteurised Liquid Egg	Failed to satisfy the alpha amylase test.
XD.126	Pasteurised Liquid Egg	Failed to satisfy the alpha amylase test.
ZD.22	Pasteurised Liquid Egg	Failed to satisfy the alpha amylase test.
ZD.35	Broad Beans	Shown to be butter beans.
ZD.190	Angelica	Contained Patent Blue V—a prohibited colouring.
XD.374	Milk Loaf	Gave no evidence of lactose and hence not a milk loaf as described.

COMMENT ON OTHER FOOD AND DRUGS SAMPLES

The following comment is derived from a selection of the more interesting specimens reported in the quarterly reports.

Samples of clotted and double cream received early in the year showed fat figures of 53 to 60 per cent. This suggested that the fat content of such cream could be raised to at least a minimum of 55 per cent. This standard was in fact imposed by the Cream Regulations operative from 1st June, 1970.

Twenty-four cheeses representing a wide variety of English and Continental origin were examined and all found to comply with the requirements of the Cheese Regulations, 1970.

A cheese filled slimmers sandwich had the composition as stated and the calorie value was in accord with the statement accompanying the sample. Similarly, the claims relating to several breads were correct in respect of protein, starch and calorific values.

One sample of fruit drops contained the new permitted Black PN colouring.

A skimmed milk powder proved to be a sample of plain flour.

Fresh cream doughnuts were correctly described. The fat was entirely butterfat. Rum and butter sweets were regarded as correctly described with 8 per cent of butterfat and 1 per cent of rum.

Three samples of sparkling lemonade were of satisfactory composition but comment was made that glucose at 4 per cent should be the second listed ingredient after sugar found to be 7·2 per cent.

A drinking chocolate proved to be a cocoa.

A sample of faggots in gravy contained only 24 per cent of meat. 26 per cent is the minimum requirement and the article was returned as of poor quality.

An article submitted as a coffee cream was simply cream or single cream. Coffee cream is no longer mentioned in 1970 Cream Regulations.

A rum and raisin ice cream contained the equivalent of 1·1 per cent of rum.

A sample of maize was considered to be of very poor quality with $\frac{3}{4}$ oz. of fine matter consisting of nibblings, husk and broken grains. No foreign starches were detected but this fine matter contained twelve pellets of rodent excreta.

Two samples of canned potato salad in mayonnaise showed badly etched cans and tin contents of 170 and 110 p.p.m. The stock appeared to be old and would warrant early disposal.

Cooked chips contained 10 and 20 p.p.m. of sulphur dioxide preservative. These residuals arise from the sulphuring of chipped potatoes prepared for catering purposes.

Rum and butter chunks were satisfactory in respect of butter content but there was no evidence of rum. The article should be designated as rum flavour and butter chunks.

A steak and kidney pie weighing 6 ounces should have contained 1·5 ounces of meat. Only 1·45 ounces was found and the article was returned as of poor quality.

An unfermented wine was shown to have a specific gravity of 0·9998 after distillation which was indicative of the virtual absence of alcohol.

Several samples of peanuts were found to be free from aflatoxins.

A laverbread gave no evidence of radioactivity.

A sample of beef and pork sausages contained 58 per cent of meat and I would expect this order of meat in a mixed meat product.

A colouring and a soft drink contained PonceauMX which will be prohibited as from 1st January, 1971.

Several preparations based on paracetamol were correctly prepared. The BP requires 475 to 525 milligrams per tablet. Paracetamol has analgesic and antipyretic properties.

An ice cream contained only 0·1 per cent of salt. The complaint of a salty taste was not supported.

A sample of bread crumbs were chemically of satisfactory composition but contained a standard steel $\frac{1}{4}$ inch washer.

Three samples of tuna fish taken in December showed mercury contents of 0·07, 0·08 and 0·03 p.p.m. well within tolerance levels. Further examinations of fish products will be made in 1971.

Two samples of drinking chocolate contained respectively 66 and 72 per cent of sugar as the main ingredient. Cocoa was incorrectly listed as the principal ingredient.

FERTILISERS AND FEEDING STUFFS ACT

		<i>Formal</i>	<i>Informal</i>	<i>Comment</i>
Fertilisers (City)	... ..	4	27	3
Feeding Stuffs (Avonmouth)	...	—	294	56

Fertiliser faults included the following :—

Low in nitrogen	...	1
Excess of nitrogen	...	1
Reversion of phosphate		1

Feeding Stuffs faults included :—

Low in protein	...	6
Low in oil	...	8
Excess of oil	...	12
Low in copper	...	2
High protein	...	26
Labelling fault	...	1
Low in Sulphaquinoxaline		1

That is a total of 56 irregularities.

The following is a summary of the specialised examinations required regarding drug additives, metals and urea equivalents.

Urea	...	...	19 samples
Amprolium	...	...	21 "
Sulphaquinoxaline	...	...	24 "
Ethopabate	...	...	21 "
Magnesium	...	...	19 "
Iron	...	...	1 "
Manganese	...	...	3 "
Cobalt	...	...	1 "

Copper	...	...	48	samples
Emtryl	...	...	5	"
Phosphorus	...	...	2	"
Metichlorpindol	...	...	2	"
Carbarson	...	...	1	"
Dinitolmide	...	...	4	"
Decoquinat	...	...	2	"
Dimetridazole	...	...	6	"
3 Nitro	...	...	2	"
Clopidol	...	...	1	"
Nifursol	...	...	1	"
Deccox	...	...	1	"
Total			184	"

To summarise, there were 56 irregularities in the 294 feeding stuffs and 3 irregularities of the 31 fertilisers. The total 321 Fertiliser and Feeding Stuffs samples involved no less than 184 special examinations. Thirteen drugs were covered and methods for these have been established although most of these are complex and time consuming. 21 samples contained pancosin which is a mixture of three drugs—amprolium, sulphaquinoxaline and ethopabate. All the additions of drugs are either coccidiostats or antiblackhead drugs primarily for poultry (including turkey) feeding. It should be noted that in 1968 10 per cent of feeding stuffs required special examination rising to 28 per cent in 1969 and further to nearer 50 per cent in 1970.

WATERS AND SEWAGE ANALYSES

Bristol

City water from tap at Canynge Hall	...	...	4
City water from Jubilee Road	...	...	11
Ships in port	...	...	4
Council House heating system	...	...	12
Seepage waters	...	...	21
Streams	...	...	11
Well waters	...	...	1
Miscellaneous (primarily mains supplies)	...	...	44
Swimming Baths	...	...	211
			319

Bristol Waterworks Supply

Sampled at	...	...	<i>Canynge Hall</i>	<i>Jubilee Road</i>
No. of samples	...	...	4	11
<i>Range of variation (parts per million)</i>				
Total Solids	...	...	197—290	213—287
Chlorine as Chloride	...	...	16—19	15—21
Nitrate Nitrogen	...	...	1.0—2.5	0.8—3.0
Total Hardness	...	...	176—242	145—200
Permanent Hardness	...	...	39—82	63—96

FIELD REPORT

The field work for the City and Port Authority has followed the usual pattern and included such matters as the correct chlorination of small paddling and swimming pools and watching the drainage, water supply and new pool at Croydon Hall School.

There was a difficult persistent 'bad smell' nuisance in a house in Clifton which proved to be due to a very small gas leak from a sealed-off branch pipe beneath the bedroom floor boards.

RAG FLOCK ACT

Forty-eight specimens of flock materials were submitted first to ascertain their nature by microscopical examination and then in appropriate cases to a determination of the chloride content which is limited by the Act to 30 parts per 100,000. One sample only was not a true flock. One

sample contained chloride equivalent to 37 parts per 100,000 and the remaining forty-six samples were all satisfactory.

PHARMACY AND POISONS ACT

For the first time in many years the Pharmacy and Poisons front has been absolutely quiet and the inspectorate did not find it necessary to submit any samples. The section is thus quoted in this Report purely for continuity reasons.

GAS LIQUID CHROMATOGRAPHY (GLC)

Ten samples were submitted for examination including frozen beans, peas and broad beans, dried fruit, mushrooms cassava and mangoes and an aerosol preparation.

26 samples of soft drinks were examined for cyclamates of which one was positive. This was probably old stock and before the Regulations.

INFRA-RED EXAMINATIONS

The bulk of these examinations related to the identification of petrols and paraffins on behalf of the Weights and Measures Department and detail is reported elsewhere.

Other matters in which Infra-Red techniques were of great value concerned the identification of solvents and oil sludges, the demonstration of stearic acid in tip residues; the impregnation of plaster boards with fuel oil, the identification of engine oils, the examination of a sauce cocktail for the presence of whisky and finally the examination of some thirty samples of soft drinks for brominated vegetable oils. In two instances the oils were identified.

SPECTROGRAPHIC EXAMINATIONS

The numbers of examinations made in the last five years for the three authorities are as follows :—

		<i>Bristol</i>	<i>Gloucester</i>	<i>Gloucester</i>
		<i>City</i>	<i>County</i>	<i>City</i>
1966	...	1,001	40	15
1967	...	1,140	52	2
1968	...	993	129	12
1969	...	761	100	16
1970	...	749	51	18

The falling off in 1970 was primarily due to staff problems although it was only reflected in City samples. It seems likely that there will be a continuing fall in this aspect of our work due to first the closing of the City Docks coupled with increased container services and with the increasing use of Atomic Absorption techniques particularly for lead estimations.

ATOMIC ABSORPTION EXAMINATIONS

The requisite equipment was set up in May and at the end of the June quarter, after certain preliminary and essential control work, I reported that 28 analyses has been made for the City and 17 for Gloucester County. The rapid development of the new approach to metal determinations is represented by the following :—

		<i>Bristol</i>	<i>Gloucester</i>	<i>Gloucester</i>
		<i>City</i>	<i>County</i>	<i>City</i>
June quarter	...	28	17	—
September quarter	...	82	15	—
December quarter	...	111	21	3
Totals	...	221	53	3

MISCELLANEOUS EXAMINATIONS

Besides this general work, special analyses were made of milk and vegetables in connection with the Avonmouth survey—87 analyses, together with smoke stains and rain gauge waters.

1.	City and County of Bristol General Examinations	...	149
2.	Toxicological and Biochemical Examinations	...	30
3.	Foreign bodies, Insects and Infestation	...	103
4.	Gloucester County	...	95
5.	Education Department	...	125
6.	City Police	...	1
7.	Port Health Office	...	609
8.	Housing Department	...	3
9.	Weights and Measures Department	...	43
10.	Toys (Safety) Regulations	...	33
11.	Trade Descriptions Act	...	11
12.	Baths Superintendent	...	1
13.	District Inspectors Samples	...	86
14.	Geriatric Survey	...	4
15.	Bristol University	...	2
16.	Fire Brigade	...	2
17.	Port of Bristol	...	2
18.	Gloucester City	...	9
Total			1,306

City of Bristol—General Examinations

A selection is made of the more interesting of the 149 items submitted.

A window glazing compound consisted of whiting and linseed oil. The original composition of the putty was difficult to assess in view of the oxidation of the linseed oil.

No evidence of turpentine could be found in a steak and kidney pie as was alleged.

A sample of cidrella was examined fully for the purposes of an export certificate.

Stencils, a stencil cutting machine and the room at a school were examined in relation to a smell nuisance. The smell was at least partly due to ozone and it was advised that an extractor fan be installed.

The acidities of two boiled milks were such as to suggest the reason for curdling.

Patches on King Edwards potatoes were shown to be due to the mycelium spores of *Fusarium*, the causative agent of potato dry rot which only develops upon storage.

A watch strap was alleged to have caused dermatitis. The strap was non-absorbent and irritation was probably due to perspiration.

A seepage water submitted by the Telephone Manager was shown to be a mixture of sewage and sink waste.

A petrol submitted by the Forensic Laboratory was shown to be a three star fuel.

A piece of steak showed surface tints due to the effect of light coupled with oxidative changes of the haemoglobin.

An oil emulsion contained a trace of cadmium—5 p.p.m. and had a pH of 7.0.

Asbestos insulation was shown to consist of common white asbestos.

A powder stated to be used in spraying paper was found to be a finely divided potato starch.

A liquid contained in a blue coloured spherical bulb proved to be carbon tetrachloride.

Ladies tights showed a large number of small holes due to acid droplets. This matter was discussed with the Chief Public Health Inspector who had received several similar complaints from a closely defined area of the City.

A mass of plastic matter recovered from a pressure cooker was shown to be the molten and set remains of a plastic scouring pad.

A canned cream was shown to be in very poor condition. The clotting was due to the presence of *B. Cereus*, heat resistant organism which produces an enzyme which in turn coagulates fat and protein to produce what is known as "bitty Cream".

A hamster meal was free from aflatoxins and any toxic metals.

Two seepages submitted by the Telephone Manager contained solvent layers shown to have the characteristics of a four star petrol. Where the Telephone Services meet such problems all the appropriate services are automatically advised.

Two samples of eggs submitted by the Chief Dental Officer were examined for copper, zinc and mercury.

A bottle of brown ale contained a flimsy pellicle of mould growth.

Paint chippings from a baby's cot gave a lead content of 2,000 p.p.m. It was recommended that the paint be stripped and a good branded "lead free" paint should be applied.

Twenty-three foods collected after a fire were found to be in good condition and the stock was released for human consumption.

A powder was shown to be 100 per cent oxalic acid. This has caustic properties and could cause dermatitis.

A crazy foam preparation contained a non-inflammable foam with a soap-like odour. It was neutral and contained an anionic detergent with a propellant such as Freon 11 or 12. It would be satisfactory if used as per the instructions.

Seven samples of leaves gave no evidence of damage by chlorides, chlorate, sulphates or phenols. The acidity was normal and damage was probably due to weather conditions.

A sample of cider submitted as a result of a private complaint was very surprisingly found to contain the equivalent of 60 per cent of gin or vodka—a cider well beyond the potentialities of the local Somerset scrumpy! No satisfactory explanation for such a potent cider was forthcoming.

A milk was found to have a very definite odour of turpentine or its substitute. The amount was insufficient for confirmation.

A separated dried milk powder had developed some taint and an increasing moisture content. The powder was purchased in 56 lb. bags and smaller packs were recommended to ensure more rapid use whilst in good condition.

A gram flour contained 0.25 per cent of siliceous (sandy) matter compared with only 0.03 per cent in an earlier sample.

Dates gave no evidence of mould growth. Fine strands on the dates consisted of sugar syrup, together with minute sugar crystals.

Grasses taken from Badminton, Cherington and Frampton Mansell gave only traces of gamma BHC from 0.0006 to 0.0009 p.p.m.

Braised heart and beef in rich gravy was incipiently rancid. The product had an unpleasant cheesy taste and smell.

Canned peas contained the flower heads of the creeping thistle.

A bone meal was shown to be acid washed as stated and was also demonstrated as being free from anthrax spores.

Biochemical and Toxicological

A liquid submitted from the Children's Hospital was shown to be Technical White Spirit. This liquid was stated to have been taken by a child.

A fluid from Winford Hospital was free from cobalt but nickel and chromium at low levels of 1.7 p.p.m. were found.

Six samples of hair, nails and urine contained no significant amounts of arsenic.

Two tablets submitted by a private practitioner were each shown to contain 5 grams of aspirin. There was a story of some enterprising character selling these at fancy prices as "drug" tablets. It was also alleged that recipients of these tablets really thought they did their job—such is the power of suggestion!

One urine from a student of the University contained 37 micrograms of mercury per 24 hour. This is certainly indicative of exposure to mercury but not high enough to indicate poisoning.

There was a private request for information regarding yew tree berries. These are toxic to humans and livestock whether green or dry. The yew tree is generally regarded as the most dangerous of all poisonous trees in Britain.

Eleven urines and two bloods were examined for mercury and one blood and two urines for lead.

A urine contained 9 micrograms of arsenic per 24 hour specimen—that is within the "normal" range.

In the broader context of trace metal work this table is of great interest :—

Mercury	Foods	5}	20
	Urine	13}	
	Blood	2}	
Arsenic	Foods	42}	50
	Urine	3}	
	Blood	5}	
Lead	Urine	2}	736
	Blood	1}	
	Food and Drugs	733}	

Foreign bodies in foods, insects and infestation

This section of our work is always intriguing and certainly interests everyone to whom we lecture on the general aspects of our work. The summary consists of a record of the day to day oddities which find their way into foods, together with some of the insects found in both foods and households.

Among the insects identified in various circumstances were the Australian spider beetle; several instances of the paniceum; the rice weevil; the bean weevil; the dermestes maculatus; fur beetle; the varied carpet beetle; saw-toothed grain beetle; the onion fly; fruit flies; common furniture beetle; the ichneumon fly; common housefly; a centipede; tobacco beetle and a female cricket.

A sample of milk contained a curved portion of glass weighing 4 g. $1/7$ oz). Its general shape suggested a portion of a milk bottle.

Another milk sample contained matter identified as animal tissue, most probably a roll of columnar epithelium from the udder of the cow.

A can of minestrone soup contained two soft buff coloured pieces of rubber.

The alleged foreign matter in potato crisps proved to be a fragment of glass.

A portion of steak contained a small strip of copper covered steel binding wire.

A sliced loaf contained small fragments of a soft wood, probably pine.

A bun ring contained a piece of material with all the characteristics of a piece of chewing gum perhaps more usually "parked" under the seat of a chair!

A cake contained foreign matter identified as Medicago, commonly referred to as Medick, a herb gathered in error with the fruit used in the cake.

An apple flan contained a single mammalian hair but not of human origin.

A stewed steak contained a number of bovine hairs.

An iced lolly was received in a fluid condition with flocculent matter in suspension which was identified as broken up mould pellicles.

A cake contained a ribbed fragment of metal weighing 0.1 g. or $1/280$ th of an ounce. The metal was a manganese steel with a trace of lacquering.

Frozen peas contained the disintegrated and compressed remains of pea pods.

A dried milk powder contained transparent flattened strands of a polythene plastic.

A sample of flour contained a decomposed mouse, a moth and three fragments of wood—what a story could be dreamt up on that collection!

A doughnut contained insect fragments, the legs, wings and head and two whole small flies attached to the surface of the confection.

A small bottle containing the embryos of the Armadillidium depressum—to you wood louse, was submitted by the B.B.C. The bottle was alleged to have been picked up on the River Clyde and contained, besides the embryos, a small label with—quite fantastically, the address of a house in Whatley Road only a few doors from the Laboratory. This may well have been a hoax but the problem was never satisfactorily solved!!

A foreign body in fish was a nematode worm.

A portion of an apple showed a patch of discoloration due to brown rot fungus which commonly attacks apples in storage.

A jar of honey contained a piece of glass weighing 0.4 g. The glass was typical bottle glass.

A bottle of milk contained a thin shaving of potato peeling.

A swiss roll contained several dark objects identified as small black ants but their location on the roll did not suggest they had been baked in the roll.

A sample of corned beef contained a curved splinter of metal consisting of iron, manganese, copper and chromium which is not likely to have come from the can.

A general purple stain on a milk bottle was shown to consist of minute specks of many colours probably due to shavings from a pencil sharpener used for grease pencils or crayons.

Watercress contained a dozen live specimens of the larvae of the midge of the genus Tanypus common to ponds and streams.

A pasty contained four portions of string lying parallel in the pasty. They consisted of jute or hemp fibres 1 inch long and 1 mm wide.

A sample of flour alleged to contain a mouse happily did not contain a rodent but a whole sausage liberally coated with flour. The housewife complainant remained unconvinced that she could possibly have mislaid a sausage in this manner.

The alleged foreign matter in grapefruit proved to be naringin a bitter principle common to grapefruit and found primarily in the pith of the fruit.

Education Department

The volume of work for this Department increased from 65 samples in 1969 to 125 in the year under review. Early in the year 98 contract samples were examined and these included floor seals, sweeping compounds, floor cleaners, waxes, polishes, soap and soap powders and flakes, toilet rolls and packs, weedkillers, bleach solutions, disinfectants, detergents, white spirit, channel blocks, metal polishes, furniture cream and grease solvents and abrasive cleaning pads. These items were evaluated in relation to quality, quantities and prices.

A polish and cleaner sample consisted of amyl acetate in a premium grade paraffin.

A sample of concentrated hydrochloric acid was confirmed as such. It had been used without dilution in a new school building with very unfortunate corrosion consequences.

A deposit from a paddling pool consisted of algal growths.

The further general stores items including polishes, detergents and soaps were checked as articles supplied under contract. Two paints were checked—one was a control and a second was examined for possible dilution.

City Police

Only one sample required examination. This was a sample of linseed oil found to be very acid and rancid. It was judged as most unsuitable for feeding to horses. The problem reminded us of the hoary chestnut joke of giving the horse turpentine and he died!

Port Health Office

609 samples were received from the Avonmouth Docks only as the City Docks have now ceased to operate. Certain other imports are also examined in relation to the rapidly developing container service. I have selected a few items for comment.

Two samples of cornflakes were free from cyclamates.

Samples of groundnuts, walnuts and brazil nuts were in good condition and free from aflatoxins.

Samples of bottled pickles and sauces ex Canada were in excellent condition and free from additives, notably alum which was an earlier problem. The hot mix pickle contained no tomato although this was stated to be an ingredient. This was probably an inadvertent mixing fault.

A tomato powder contained tin equivalent to 230 p.p.m. and a second sample 250 p.p.m. the maximum recommended amount in foods.

Two samples of Michigan Navy beans were in good condition free from infestation and devoid of stones or siliceous matter.

Two tomato pastes showed excessive tin contents at 280 and 250 p.p.m.—probably due to prolonged storage.

Canned green beans contained 220 p.p.m. of tin and were recommended for early disposal.

A portion of New Zealand lamb was submitted with some associated liquor which contained nearly 10 per cent of calcium chloride.

A sample of sweet potato was shown to be dyed with Erythrosin, a permitted food colouring.

A specimen of stained ice was received as a rusty coloured fluid. It had been derived from the packing of meat carcasses and consisted of grease, salt and rust.

Three samples of Burmese rice were slightly infested, two with *Tribolium castaneum* and a third with *laemophloeus ferrugineus*, which is a predator on other insects.

Two samples of Bombay Duck were examined. This is a fish with some similarities to cod. The oil had high iodine and Reichert values.

Examination of some portions of lamb fat indicated contamination with mineral or fuel oil.

Fourteen samples of desiccated coconut were examined for preservative. Four contained traces of sulphur dioxide—100 to 200 p.p.m. which seemed to be the result of some processing procedures in drying the coconut.

A sample of tea, together with some container rubbish were submitted in order to ascertain the nature of the colouring. This proved to be a non-permitted blue dye. The rubbish consisted of asbestos-like fragments and pieces of nut—the whole again coloured with blue dye.

A sample of lemons contained orthophenyl-phenol of the order of 2 p.p.m. The permissible maximum in citrus fruit is 70 p.p.m.

Unsweetened baker's chocolate showed evidence of mould growth in varying amounts in the 8 one ounce blocks comprising the pack. The Port Health Officer reported similar trouble with the rest of the consignment.

Numerous samples of tea were examined for moisture, infestation, excess stalk, mould growth or oil contamination. The majority were entirely satisfactory.

The majority of canned goods were free from undue metallic contamination and all canned fish was free from radioactivity.

Housing Department

Only three samples were involved. Two specimens of wallpaper were found to be heavily contaminated with urine.

Sample M.542 comprised three materials ex Roegate House. The presence of oil was confirmed in these items. It was not specifically identified but was thought to be a fuel oil.

Weights and Measures Department

The work for this Department concerned three aspects—general items and specific matters relating to the Toys (Safety) Regulations and consumer protection that is the Trade Descriptions Act.

General and Trades Description tended to fall together with such matters as petrols both for grading checks and petrol/oil mixtures for use in mopeds and scooters, together with paraffins of premium or regular grades.

			<i>Examined</i>	<i>Unsatisfactory</i>
Petrol	...	...	42	1
Petrol/oil	...	...	1	1
Paraffin	...	...	5	1

Other samples of general interest included jumping beans which comprised small coloured capsules containing a pellet of lead. The painted surface of the capsule contained only traces of lead. It was shown that the beans did not in fact jump. Import was subsequently banned largely because of the presence of the lead pellet.

Broad beans were shown in fact to be butter beans. A trace of colouring in the butter beans was probably indigo carmine.

One sample of paraffin was shown by infra red examination to be of premium grade but customs markers were present and the product required re-sampling. A second sample was very similar and the trace of markers may be the result of the presence of traces of regular grade paraffin in the tanks.

A number of pencils with gold, green, blue and red colouring had significant amounts of lead and chromium notably in the gold and green coloured units. Pencils are not specifically defined as toys in the Regulations. Nevertheless, using the criterion of those Regulations the blue and red pencils could be approved but the gold and green items would have excessive amounts of lead and chromium. I would recommend that the importers be advised of the situation.

A petrol submitted as of four star rating but was found to have the characteristics of 3 star fuel.

A dog food consisted essentially of a 7 per cent solution of an anionic detergent. There was no evidence of pyrethrins or organochlorine pesticides.

An oil was confirmed as SAE 30 a designation of oils based upon the "falling sphere" method for viscosity.

A fish food consisted of cooked wheat flour. The food was also bacteriologically satisfactory.

A cat food was found to comply with the stated analysis in respect of protein, fat and fibre.

Thirty toys were submitted of which three, all humming tops of the same manufacture, received adverse comment. The paint film of the knob of these three tops contained excessive lead and soluble chromium.

Baths Superintendent

A portion of scale associated with a corrosion problem was examined for its trace metal content. Besides iron, zinc, manganese, copper, tin and lead and somewhat surprisingly silver was also detected.

District Inspectors

The eighty-six specimens included such items as insects for identification and foods sampled via the container service.

Frozen chickens showed white patches mainly on the underside of the packs. There was little doubt that this curious condition was due to blisters produced by "freeze burn" caused by long storage and condensation resulting in patches of dehydration of the flesh.

Insects identified included *Ptinus tectus*; a centipede; twelve ladybirds of the family coccinellidae; species of spring tails; the varied carpet beetle; the lackey moth; caterpillar and

beetle mites; the wharf borer; the saw-toothed grain beetle; the summer chafer; the bed bug; the fur beetle; the crab louse; the book louse and cat flea.

Samples of butter, strawberry pulp, cheese, chewing gum, port wine, sherry, canned fruit taken at the place of delivery of the container service all proved satisfactory.

Two samples of mixed fruit pudding showed signs of swelling or blowing. Baking powder was an ingredient of the puddings and it seems very likely that carbon dioxide was being slowly evolved to produce the swelling effects.

Fillings taken from a three piece suite showed signs of pest infestation as evidenced by dark patches of insect excreta.

Three cartons of currants were found to have been damaged by fresh or rainwater and not as thought possibly by sea water, syrup or urine.

Deposits taken from a floor contained three pellets of rodent excreta.

White flakes consisted of whole or fragmented parts known as glumes which enclosed the seeds of grasses derived from rye grass which is commonly used as fodder.

A specimen of berries consisted of both red ovoid berries with leaves of the woody nightshade and some black berries of the black nightshade. The calyx of the black or deadly nightshade is a prominent frill surrounding the fruit—a point of useful distinction.

An orange juice was in an advanced state of fermentation and was quite unfit for human consumption.

A sample of Kenya tea gave normal analytical figures but gave a very astringent infusion and was of very coarse appearance. It would require grading and blending.

A sludge was free from sulphuric acid and phenols but the pH at 9.5 resulted from the presence of washing soda.

Geriatric Survey

Only 4 blood specimens were examined for vitamin C levels and white blood cell counts in aged persons resident at Meadowsweet Home. This completed, for the time being at least, the survey which was started in 1969.

Bristol University

A seepage proved to be a mixture of cork residues, sewage and some photographic wastes.

Fire Brigade

Two specimens of liquid were shown to be petrol within the meaning of the Petroleum (Consolidation) Act, 1928.

Port of Bristol Authority

A sludge and a specific oil were examined by infra red spectrophotometry. The sludge probably consisted of an aqueous emulsion of a heavy oil similar to the comparison oil submitted.

REPORT OF THE WORK FOR THE COUNTY OF GLOUCESTER

This is my nineteenth Annual Report on the analytical and advisory services provided for the County in accordance with the 1951 Agreement made with the Bristol City Council.

The pattern of work has been as in recent years. The main services relate to food and drugs, fertilisers and feeding stuffs, examination of waters, sewage and effluents, Trades Description Act, Pharmacy and Poisons Act, Toys (Safety) Regulations examinations for pesticides and consultative work in relation to water, sewage and air pollution.

Summary of Examinations

Milks	...	...	...	...	...	1,055
Food and Drugs	...	...	...	...	...	923
Waters, Swimming Bath and Effluents	...	...	...	...	...	57
Fertilisers and Feeding Stuffs	...	...	...	...	...	185
Miscellaneous Samples	...	...	...	...	...	107
						<hr/> 2,327 <hr/>

Pharmacy and Poisons Act	1
Spectrophotometric Analyses	51
Gas Liquid Chromatography	306
Atomic Absorption	53
Chlorination	61
Trade Descriptions Act	125
Toys (Safety) Regulations	20
Silage	6
Cosmetics	12
Environmental Surveys—	
Lead Peroxide	24
Deposit Gauges	24
Dust Nuisances	7
Smoke Recordings	263
Special Surveys	19
	<hr/>
	972
	<hr/>
Total ...	3,299

The total number of examinations is just 56 more than the 1969 figure. It would seem that something over 3,000 examinations is the order of the year's work load for the County. Milk and food and drug examinations were significantly increased but examinations of waters, fertilisers and feeding stuffs and miscellaneous items fell off appreciably. The new techniques of Atomic Absorption brought 53 examinations in the later part of the year and there was a considerable rise from 40 (1969) to 125 (1970) in examinations required by the Trade Descriptions Act.

REPORT ON THE WORK FOR THE CITY OF GLOUCESTER

Summary of Examinations

Milk	23
Food and Drugs	271
Waters, etc.	5
Fertilisers and Feeding Stuffs	32
Miscellaneous	9
Gas Liquid Chromatography	12
Spectrographic Examinations	18
Atomic Absorption	3
Chlorination	1
Deposit Gauges	11
	<hr/>
Total ...	385

There were significant falls in certain grouped examinations, notably in milk, gas liquid chromatography and chlorination matters.

AIR POLLUTION

The table summarises the years activities in the Environmental Field which consists of air pollution work.

	<i>Bristol</i>	<i>Gloucester County</i>	<i>Gloucester City</i>
Lead peroxide	72	24	—
Deposit Gauges	71	24	11
Dust Nuisances	103	7	—
Smoke Recordings	639	263	—
Avonmouth Survey—			
Milk and vegetables only	87	—	—
Special Surveys	22	19	—
	<hr/>	<hr/>	<hr/>
	994	337	11
	<hr/>	<hr/>	<hr/>
Total Examinations ...	1,342		

There was a very significant increase in activity in 1970, Conservation Year and indeed environmental studies reached a record in terms of specimens submitted and examinations made. The special Avonmouth Survey involving 87 milk and vegetable samples as reported in interim terms in Part XV, Special Topics. Lead peroxide and rain gauge studies involve much analytical work and are at the same level as earlier years. Smoke recordings for the City involve the sites at Canynge Hall, Monks Park School and St. Clement's House, City Centre and Dursley R.D.C.

The City Survey

The Site listed as Waterworks has in recent years been moved to the C.W.S. building. Both, however, represent conditions at the City Centre. Correcting for a full year the deposition at the C.W.S. building would be 135 tons per sq. mile, just slightly higher than recent years but representing what has since 1965 become a reasonable settled level and showing distinct improvement over 200 to 250 tons per sq. mile of the years 1954 to 1956. At Shaftesbury Crusade the deposition was 153 tons per sq. mile. Again the 'norm' of recent years and certainly notably better than the 273 tons (1954) and 226 tons (1955). The deposition at the Zoological Gardens is a little heavier than of recent years. The expected order of pollution seems to be about 100 tons per sq. mile. At Blaise Castle the deposition of 121 tons is of the expected order at least of the last five years and indeed seems to be the general pattern since 1954.

Summarising, there is notable improvement at the C.W.S., Shaftesbury Crusade and Zoo sites compared with pre the Clean Air Act, 1956 but the Blaise site figures appear no better or no worse over some sixteen years.

Rainfall at all sites was of the average order, that is around 30 inches per annum. Generally 25 inches can be considered as a dry year, 30 inches an average year with 35 to 40 inches definitely wet and heavier than average.

Sulphur pollution at the four sites shows a small increase at the C.W.S., a significant rise at Shaftesbury Crusade and steadier conditions at the Zoo and Blaise as compared with 1969. Again the emerging pattern seems to indicate some stabilisation at the Zoo and Blaise sites at 0.60 and 0.75 mgms SO_3 per 100 sq. cm. per day. At the C.W.S. the level is around 1.40 at least since 1967 and at Shaftesbury Crusade around 1.65 except for the unexplained jump to 1.96 in 1970.

The Avonmouth Survey

This area was specially surveyed in late 1970 and this is included in Special Topics. The work of assessing SO_3 in the area has continued since 1957 and again at 1.19 mgms. SO_3 per 100 sq. cm. per day there is a retrogression to something worse than 1966 conditions otherwise in the 1967 to 1969 period conditions appeared to be settling to a 0.85 mgm. level.

The Central Health Clinic

The deposition at this site was 170 tons in 1970 a reversion to pre 1968 conditions after the lowest recorded level of 143 tons in 1969. Pre 1966 the level of pollution had been 180 to 194 tons and the 1970 level consequently indicates some improvement.

OTHER ACTIVITIES

A perusal of the year's diary always indicates very forcibly that not all of the Departmental work is concerned with analysis.

Thus several meetings of a general character have been held during the year on such diverse matters as Allergy Conditions and Pollen Counts; pollution studies in the Avonmouth and Thornbury areas, two meetings of the S.W. Divisional Council for Air Pollution and a civic reception for World Veterinary Hygienists.

Three weekend lectures held at the University were attended by senior staff. The subject matter included general pollution and more specifically industrial, urban and agricultural pollution problems.

Twenty-seven Court proceedings were initiated by the three authorities. Of these fifteen guilty pleas were entered and my certificate accepted. In these circumstances I am not required to attend. Three cases were adjourned, one was withdrawn, one dismissed and one was lost as a result of sheer bluffing of the bench by the defence and in my absence. In the remaining six cases

my attendance was required. The various proceedings were in respect of:—

- Bread with insect fragments
- Glass in milk
- Channel Island milk deficient in fat
- A meat pie with foreign body
- Two petrols, a contravention of the Petroleum (Consolidation) Act 1928
- A milk containing antibiotic
- A yoghurt containing a piece of wire
- Two watered milks
- Petrol/oil mixture incorrectly dispensed
- Metal in a pie
- Rust in a milk bottle
- Chewing gum in a bun
- Broad beans substituted with butter beans
- A milk containing antibiotic
- A cream deficient in fat
- A pie with mould growth
- A milk with antibiotic
- A corona drink substituted by tap water
- A piece of muslin in a sausage
- A piece of metal in apple strudel
- Rodent excreta in a pineapple split and in sweepings from a restaurant cupboard.
- A bread containing fragments of a soft wood
- Tomato ketchup and three other specimens all relating to glass fragments in the ketchup
- Bread containing part of a rusty cutting blade.

Thirty-three general and specific lectures were given to Trainee Public Health Inspectors; D.P.H. Students; Badminton School Girls; 5th year Medical Students; a joint meeting of the Institute of Food Science and Technology, the Association of Public Analysts and the Food Group of the Society of Chemical Industry at the Middlesex Hospital, London; Bristol North Townswomen's Guild; All Saints Mother's Union; Cotham Grammar School; the Community Centre at Patchway; Clevedon Townswomen's Guild; Bedminster School; Catering Students.

A Zone 3 meeting of laboratory staffs was held successfully in Bristol in October. These meetings are now held twice yearly in the locations of the interested parties and have proved invaluable and most interesting meetings.

There were the usual quarterly meetings for the presentation of reports to the Environmental Sub-Committee.

Among the visits and visitors may be listed a visit to the vessel, City of Bedford to investigate the results of fire damage to the ship's refrigeration unit; a visit to a spice and flavouring factory at Cam, Glos.; a visit to Huntley and Palmers, Reading; a visit to Long Ashton re pesticide residues; and a visit to the Technicon Conference, London. Miss J. Peden, County Analyst Somerset and Mr. G. B. Thackray, Public Analyst Portsmouth and Mr. Thompson of Torry Research were welcome visitors to the Laboratory.

Finally, I must thank the Health Committee for permission to attend the Association of Public Analysts meeting in London to maintain contact and discuss food problems with professional colleagues.

In May I completed my two years office as President of the Association and delivered the presidential address on toxicants occurring naturally in foods. I also attend as Moderator, two meetings of the Examinations Board for the M.Chem.A. qualification.

In December the local Associate Members of the Association held a most successful one day Symposium on Meat. This was well organised and attended the Associates concerned are to be congratulated on a very promising first effort.

SPECIAL TOPICS

Survey of grapes and tomatoes on fruit stalls in heavy traffic areas of the City

13 samples of tomatoes, one of potato and 14 of grapes were all examined for lead and in a few instances for arsenic.

All of these samples complied with the Lead in Food Regulations, 1961, in that each sample had significantly less than 2 p.p.m. of lead.

The grape samples show significantly higher lead figures than that of tomatoes and this

may be related to the relative surface areas exposed. Very approximately the relative surface areas are tomato to grape 4 to 1.

In five of the grape samples the arsenic was also determined. The order was nil to 0.05 p.p.m. which is very satisfactory.

If lead arsenate were used as a control pesticide the lead to arsenic relationship would be 4 to 1. Thus taking M.230, in which the arsenic is 0.01 p.p.m., the associated lead might be 0.05 p.p.m. leaving a balance of 0.30-0.04 or 0.26 p.p.m. which could be due to aerial pollution.

The range of lead figures is from 0.12 to 1.17 p.p.m. Lead was present in all samples and with the history of their location on the selected stalls, this could imply some take up of lead from the air as a result of exhaust fumes from passing vehicles.

The British Steel Corporation Effluent

Physical characteristics	...	...	...	Almost black, offensive smelling liquid
Reaction	...	...	...	pH 9.5
Specific gravity at 60°F	...	...	...	1.02
Free ammonia	...	...	...	2.1 per cent w/v
Biological Oxygen Demand (B.O.D.) 5 days	...	...	...	4,000 p.p.m.
Sulphides (as H ₂ S)	...	...	...	500 p.p.m.
Cyanides (as HCN)	...	...	...	55 p.p.m.
Phenols (as phenol)	...	...	...	2,200 p.p.m.
Chemical Oxygen Demand (C.O.D.)	...	...	...	12,800 p.p.m.
Suspended Solids	...	...	...	310 p.p.m.

Using the Royal Commission requirements of a maximum B.O.D. of 20 p.p.m. and maximum suspended solids 30 p.p.m. and pH to be between 6 and 9 as guiding principles, together with the very high chemical oxygen demand and to a lesser degree the presence of sulphides, cyanides and phenols, signifies that this effluent is most undesirable for discharge to the Severn Estuary without preliminary treatment to remove the major objectionable features.

It was intended to discharge this effluent into 40 feet of water $\frac{1}{2}$ mile off shore from Portishead. It is estimated that a discharge of 400,000 gallons per day would render completely void of oxygen a volume of water 40 feet deep and $\frac{1}{4}$ mile in diameter. In one year this could mean the removal of oxygen from a volume of water 40 feet in depth and 5 miles in diameter.

The Examination of Tobacco and Cigarettes

These samples were accepted under the Food and Drugs Act as samples of drugs. Tobacco is rarely used as a medicine and was last "official" in the British Pharmaceutical Codex 1934.

Each sample was examined for BHC (gammexane) and for total DDT and its breakdown products DDE, opDD, pp'DDT, TDDE and TDE.

Considering first the 12 tobaccos. All were free from BHC whilst the bulk of the DDT was as pp'DDT and TDE. The ranges of total DDT were in p.p.m. :—

0.70 to 2.87	...	6 samples
4.43 to 8.72	...	4 samples
13.99	...	1 sample
29.05	...	1 sample

The 12 samples of cigarettes similarly treated showed that BHC was present in five samples in the range of 0.10 to 1.15 p.p.m. The ranges of total DDT were, in p.p.m. :—

1.72 to 2.83	...	3 samples
5.61 to 8.03	...	5 samples
11.2	...	1 sample
16.6	...	1 sample
22.31	...	1 sample
43.0	...	1 sample

Without considerably more information as to precisely what happens to these various compounds when cigarettes or tobacco are smoked it is extremely difficult to assess what risk to health is involved except to say that in general the higher the amounts of BHC and DDT the more objectionable is their presence.

Thus we would wish to know :—

- (a) The mechanism of inhalation of all or any of the chemicals when the cigarette or tobacco is lighted.

- (b) The amounts which might be acceptable because on ignition they might be completely decomposed and lost.
- (c) The possible synergistic action of these compounds in association with nicotine and its various compounds.
- (d) The possible contribution of BHC and DDT to the cancer problems.

The general reaction to the presence of BHC and DDT in cigarettes and to DDT and its associates in tobaccos is that any form of smoking must add its own health risks to the already grim picture painted in the last few days.

Tabacum

BPC 1934 p. 1037

Tobacco contains 1 to 8 per cent of nicotine. It also contains small quantities of the following bases; nicotine, nicotene, isonitene, nicotine, nicotelline, pyrrolidine, N methyl pyroline; traces of resin and volatile oil are also present.

Action and Uses

Tobacco is rarely used in medicine. When tobacco is smoked, the nicotine and other substances are partly decomposed into pyridine furfural, collidine, hydrocyanic acid carbon monoxide and other bodies, to which the poisonous effect of tobacco smoke is mainly due. Many explanations of the soothing effect of smoking upon the nervous system have been put forward, but agreement is general only in the statement that it is not entirely due to the action of nicotine. Over indulgence in smoking gives rise to hoarseness and cough, due to congestion of the throat and air passages. In more severe cases there is a feeble and intermittent action of the heart, depression of the central nervous system, impaired memory, dimness of vision, loss of colour perception and tremors. The effect of cigar smoking on those who are not accustomed to it is to constrict the blood vessels, increase intestinal movements and raise the blood pressure; these effects continue for about twenty minutes, during which time the blood pressure may be raised by 10 to 40 mms of mercury. Collapse then ensues, respiration becomes very feeble the patient breaks out into a cold sweat and blood pressure falls from 30 to 50 mm of mercury. These effects are probably due to the stimulant effect of the nicotine on nerve cells, followed later by the paralytic effect. Those accustomed to tobacco smoking experience none of these symptoms because their tissues are able to oxidise a certain amount of nicotine. In cigarette smoking carbon monoxide is formed plentifully and, if inhaled, is absorbed owing to its great affinity for haemoglobin, so that the smoker of 25 cigarettes per day may have 5 per cent of this haemoglobin temporarily thrown out of use.

The Avonmouth Survey

As a direct result of a meeting held at the Council House on the 10th November 1970 under the Chairmanship of the Town Clerk and Chief Executive Officer and which was attended by interested officers of the City, together with Veterinary and Nutrition Officers of the Ministry of Agriculture, Fisheries and Food, the Deputy Alkali and District Alkali Inspectors, it was agreed among other matters that the Public Analyst should intensify studies in the Avonmouth area.

I am now in a position to make an interim report on the following lines :—

1. The examination of cow's milks primarily from the area for lead only.
2. The examination of vegetation from outside the area for lead, zinc and cadmium.
3. The examination of vegetation from within the area for lead, zinc and cadmium.
4. The examination of daily smoke stains from seven locations for lead, zinc and cadmium.
5. The examination of rainwater from deposit gauges from seven locations for lead, zinc and cadmium.

1. The Examination of Cows' Milk for Lead

Seventeen milks were examined and reported as containing lead in the narrow range of 0.15 to 0.22 p.p.m. (Interim Report 1970).

In discussion with the Government Laboratory who had surveyed lead in milks taken over the whole of England and Wales it was apparent that our results were notably higher than anything they had obtained. Further a considerable amount of literature was building up in the technical journals, which indicated that lead in milk determined by Atomic Absorption techniques was likely to give over estimates of the true lead in milk.

This caused us to look very closely into the method for lead by this technique and there can be little doubt that high results for lead are due to interference by calcium and phosphate present

in the solution derived from the ash of the milk. Using an organic extraction technique with dithizone the effects of such radicles can be eliminated and control work in the last few months has adequately demonstrated this.

A second batch of milk samples were examined by the dithizone technique gave results in the range 0.01 to 0.07 p.p.m., and these figures would indicate that milk in the Avonmouth area has a lead content comparable with milk available elsewhere in the country. The levels of this order now appear to be the acceptable "background" level of commercially produced milk.

The figures for lead in milk in the Interim Report must in consequence be rejected. The high levels there reported were obviously due to hitherto unrealised interference of calcium and phosphate radicles.

It is proposed to keep milk under further survey during 1971.

2. The Examination of Vegetation from Outside the Area

Ten samples of edible vegetation were taken for comparison of the levels of lead, zinc and cadmium with similar vegetation within the area.

These samples were taken discreetly and included sprouts, sprout leaves, cabbage leaves, parsnips and parsley.

Excluding the heavy contamination of a very dirty sample of parsnip leaves, the lead figures ranged from 1.0 to 4.4 p.p.m., the zinc figures from 4.3 to 17.0 p.p.m. and the cadmium from less than 0.05 p.p.m. to 0.5 p.p.m.

The Lead in Food Regulations impose a general maximum of 2 p.p.m. for foods and three samples of sprout and cabbage leaves are above that limit. Nevertheless there is a fair argument that such leaves would not necessarily be eaten and indeed would probably be rejected or even if included with the sprouts or cabbage as a whole, would then be reduced to something of the order of one tenth of the actual level found. In other words the general impression in respect of lead would be of acceptance of the food as within the Lead in Food Regulations.

Similarly with zinc there is a recommended maximum of 50 p.p.m. for foods. Thus the range of values of 4.3 to 17.0 p.p.m. would be acceptable. It should be noted that there is only one result at 17.0 p.p.m. and otherwise the maximum is only 10 p.p.m.

The presence of cadmium, generally accepted as more toxic than zinc, is perhaps of more concern. Present techniques of atomic absorption permit a limit of detection of the order of 0.05 p.p.m. In the sample of parsnip cadmium was not detectable. In parsley, sprout leaves and cabbage leaves well outside the area, the level was returned as less than 0.05 p.p.m. The sprout leaves samples M.582 to M.585 contained traces only which implies the order of 0.1 p.p.m. whilst cabbage leaves taken in Horfield showed 0.5 p.p.m.—a somewhat surprising result of the same order as the dirty parsnip leaves. It is particularly interesting to note that the root crop of parsnip showed the lowest levels of the three contaminants. The literature is distinctly sparse on cadmium levels in food and I would discount the general comment from two sources that cadmium is present in amounts of the order of 1 p.p.m. in many plant and animal tissues. There is, however, little doubt that the main source of cadmium is from zinc and lead ores which contain 0.1 to 0.5 per cent (in zinc) and a few hundredths per cent in lead ores. Hence it is highly probable that cadmium in the Bristol air results from activities in the Avonmouth Area. If cadmium was found in any foodstuff its presence would certainly be questioned and further information sought on the source of contamination.

3. The Examination of Vegetation within the Area

Twenty-four samples of vegetation were examined over the period 25th November to 15th December, 1970 from discreetly selected sites.

The lead figures showed a wide range of variation from 2.8 to 63.0 p.p.m. all in excess of the limits laid down to the Lead in Food Regulations. The zinc figures ranged from 9.0 to 226.0 p.p.m. and in eight of the twenty-four samples the amount was in excess of the 50 p.p.m. recommended maximum for foods. In very broad terms the zinc levels are three to four times the lead levels. The cadmium figures range from a trace (0.1 p.p.m.) to 3.1 p.p.m. Again the acceptable maximum would be Nil (limit of detection 0.05 p.p.m.) with the proviso of possible natural levels.

It should be stressed that all determinations record the *total* levels of the three metals. In one case, A.14, repeat results are in brackets and on the repeat sample the *soluble* lead and zinc figures were respectively 1.0 p.p.m. and 11 p.p.m.

There again appears to be a broad relationship in comparing the three metals, thus cadmium 1·0; lead 25; zinc 100 p.p.m. Finally, there seems little doubt that there is very significant aerial contamination of vegetation as a result of activities in the area.

4. The Examination of Daily Smoke Stains from Seven Locations in the Area

The apparatus used in collecting smoke stains was the eight port version of the continuous smoke and sulphur dioxide apparatus. This equipment has been installed at 7 locations listed below and is under the control of the Chief Public Health Inspector. After recording the intensities of smoke the smoke stain papers were submitted weekly and each analysis made is the result of bulking the seven day stains. This again represented the passage of between 14 and 16 cubic metres of air through the papers in one week and it so happens that this is also the amount of air normally inhaled by the average individual in a day.

Zinc and lead were detectable at all sites but cadmium was found only at Seabank, Katherine Farm and Blaise Castle.

The average weekly suspended metal figures were :—

				<i>Micrograms per 16 cubic metres</i>		
				<i>Lead</i>	<i>Zinc</i>	<i>Cadmium</i>
Blaise Castle ...	...	...	...	12·8	23·3	0·1
St. Clements House ...	...	...	...	*14·8	24·0	Nil
Withywood School ...	...	...	...	6·2	9·5	Nil
Avonmouth Signal Station ...	...	...	...	9·2	22·0	Nil
Katherine Farm ...	...	...	...	12·7	22·0	0·1
Seabank ...	...	...	...	10·4	37·0	0·15
St. Matthias College ...	...	...	...	10·5	18·0	Nil

Based on six weeks observations

*Includes one at 40 micrograms per week.

The aerial concentrations of suspended lead were all less than 1 microgram per cubic metre which is less than the level found in the average :—

London thoroughfare ...	...	3 to 4 micrograms
Blackwall Tunnel ...	...	27 micrograms
Loss Angeles ...	...	10 to 40 micrograms

The lead particles which are too heavy to remain in aerial suspension are precipitated directly or indirectly in rainwater and such lead has been detected in the standard deposit gauges at Katherine Farm, Avonmouth and Blaise Castle. Lead has not been detected at the remainder of the sites in Bristol and Gloucestershire, which seems to indicate that the lead deposition is restricted to the Avonmouth area.

The unexpectedly high suspended lead at St. Clements House, City Centre, averaging 14·8 micrograms including one week at 40 micrograms, can be explained by the localised concentration of cars parked in the garage in a very much built up area.

The occurrence of zinc at some sites could be influenced by local pollution due to, for example, emissions of traces of zinc from Hospital chimneys after incineration of materials contaminated with zinc ointment and similar preparations.

5. The Examination of Rainwater from Deposit Gauges from Seven Locations

The rainwater collected from deposit gauges covering a period of six months, July to December, 1970, was examined for lead, zinc and cadmium. The sites of the rain gauges were as follows with the distances in miles from what might be regarded as the main source of probable pollutants :—

Katherine Farm ...	...	$\frac{3}{4}$ miles
Hallen ...	...	$2\frac{3}{4}$ "
Blaise Castle ...	...	$2\frac{1}{4}$ "
Zoological Gardens ...	...	$4\frac{1}{4}$ "
City Centre ...	...	$5\frac{1}{2}$ "
Brynleaze Farm ...	...	$4\frac{1}{4}$ "
Walning Farm ...	...	5 "

The results were discussed with the Medical Officer of Health and the Chief Public Health Inspector and it was decided to continue the survey at the present sampling levels on :—

- (a) Milk
- (b) Vegetables
- (c) Smoke Stains
- (d) Rainwater

The survey to date on vegetables has of necessity been very limited and to winter crops only. Obviously this work can be expanded in 1971 to include a wide variety of other crops.

It was also agreed to accept a preliminary and discreet survey of 24 hour urine samples selected as follows :—

- (a) from two members of staff at Canynge Hall
- (b) from two members of staff at Katherine Farm
- (c) from two members of staff at the Port Health Office, Avonmouth.

This survey would be in the first instance be limited to not more than six urines per week to be examined for lead, zinc and cadmium and the survey would start in the New Year.

Some Observations and Conclusions

This is of necessity an interim report and so much more could be done.

A distinction must be drawn between *deposited* and *suspended* metals. In general it is thought that particles of less than 1 micron will remain in suspension.

There does not appear to be any greater concentration of *suspended* lead at Avonmouth than at other points in the City. In general *suspended* lead levels of the order of 1 microgram per cubic metre is not excessive when compared with, say London where a lead build up due to traffic emissions can reach levels of 4 micrograms per cubic metre.

Deposited lead which precipitates under its own weight or indirectly by being washed down with rain is *excessive* in the Avonmouth area and averages $\frac{1}{4}$ ton per square mile at Katherine Farm. Of late the lead figures derived from deposit gauges have shown a tendency to fall but more data is necessary to assess the trend.

Deposited lead is only just detectable at Blaise Castle and it can be assumed that deposition is confined largely to an area of about 2 miles radius or less of the main industrial complex.

The levels of lead found on the outer leaves of vegetation have tended to support the pattern of deposition. Some crops examined from gardens or allotments in the immediate Hallen area have shown levels of up to 20 times the maximum limit of 2 parts per million set by the Lead in Food Regulations 1961. It must be emphasised that the heavily contaminated leaves are the outermost and in general would be discarded by the housewife. It is not thought that root crops would be significantly contaminated. Again, with other crops in 1971 the significance of lead etc. contamination may alter and one must have regard to the general philosophy that lead contamination or indeed any other toxic metal, must be kept to an absolute minimum in food, water and air both to avoid acute and perhaps more important chronic poisoning.

In consultation with the Chief Public Health Inspector it has been arranged that further samples of garden produce will be taken in the New Year from Shirehampton, Kings Weston, Lawrence Weston and as far as practicable, Avonmouth itself.

Finally, it must be stated that this survey would not have been possible on the scope achieved had we not had available to us the techniques of Atomic Absorption, coupled with the willingness and enthusiasm of the Laboratory staff and the full co-operation and interest of the Medical Officer of Health and the staff of the Chief Public Health Inspector.

VETERINARY OFFICER'S REPORT 1970

J. Allcock, B.V.Sc., M.R.C.V.S.

(Inspector under Diseases of Animals Act)

Anthrax appeared in the City yet again early in the year. A carcase from outside the City was brought into a knacker yard and opened before *Anthrax* was diagnosed. Destruction of the carcase and other contaminated carcasses by burning had to be undertaken. This incident happened at mid-day on a Saturday, and I would like to put on record the work of the disinfection squad. One member was intercepted while waiting at a bus stop with his wife on the way to the cinema. He returned home, changed into working clothes and spent the next twelve hours burning carcasses.

In my reports over the past years I have reiterated warnings about *Anthrax* dangers and emphasised that checking, by a blood smear, before a carcase was moved from a farm would reduce a danger to humans and reduce expense to the City.

Farmers, I am convinced, do not deliberately take risks with *Anthrax*, but a farmer's immediate reaction when an animal dies is to get the carcase removed as quickly as possible. If he asks his Veterinary Surgeon to check for absence of *Anthrax* before moving it some delay results, and the farmer is involved in the expense of this examination—which is not a great expense but after losing an animal one can sympathise with his wish to avoid any further expense.

The farmer can inform the Police or the Ministry of Agriculture, and the examination will then be free of expense to the farmer, but the delay can be greater and in some cases, depending on the individual Police Officer, restriction may be placed on the farm. The farmer's Veterinary Surgeon can also inform the Ministry of Agriculture and so save the farmer expense and delay. Farmers do not seem to be aware of this and take the chance and the easy way out on many occasions. If publicity via the Ministry of Agriculture and the Farmers' Union could emphasise these points—in particular the speed and saving of expense to the farmer—some good must result.

Rabies. The interim report of the Waterhouse Committee was published during the year and the reimportation of dogs and cats recommended. Quarantine is still continued with vaccination of imported animals only a further requirement. *Rabies* is becoming a serious problem in Europe and it is estimated that infection will have reached the Channel coast by the middle 1970's. In spite of all warnings I have no doubt that a lunatic fringe will still feel that quarantine regulations do not apply to their animals and smuggling will still be attempted. Equally the problem of dogs and cats kept on ships as crews pets remains and I am disappointed that the interim report did nothing to tighten up in these respects. It is not only dogs and cats which can transmit rabies.

During the year a monkey arrived at Avonmouth as a pet on board ship. This monkey had been purchased in India some three months previously. The monkey escaped from the ship and was then collected on the dock by a lorry driver who left the dock with it in his lorry and took it to Bristol Zoo. The Zoo, of course, would not admit the monkey, and with the help of the R.S.P.C.A. it was then confined, but not before the lorry driver had been bitten.

As well as rabies there are other serious, and deadly infections that can be carried by the monkey. Virus B, which causes a fatal encephalitis in man is one. This monkey was destroyed and found on post mortem to be free from either infection and the lorry driver apart from a sore hand was none the worse. Such an uneventful ending was not inevitable and again we are faced with the problem of policing the regulations that exist.

Pet Animals Act 1951

Thirty premises were licensed for the sale of Pets under this Act. All premises have been visited during the year—some on many occasions. The standards vary a lot. Most are satisfactory and some very good. Those few whose standards are poor are constantly visited and improvements occur—only to tend to lapse when frequent visits cease.

There has recently been formed a Pet Trade Association which in co-operation with the British Veterinary Association is attempting to increase knowledge of animal keeping amongst pet shop owners. This organisation will, I hope, succeed to draw into membership all licensees under the Act. At present the better owners, who need such an Association least, appear to form the bulk of the membership.

Boarding Establishments

Three premises are licensed for the Boarding of Animals. All have been visited during the year.

Riding Establishments Act

Two premises are licensed. One licence was refused and the owner then appealed to the Magistrates Court against this refusal. The appeal was granted with the conditions that had been asked for, by the Corporation, inserted in the licence, except for one amendment to the number of horses kept.

From January 1st 1970 a new Act comes into force, substantially the same, but tightening up some requirements. Apart from licensed Riding Establishments there are a number of horses kept within the City on various pastures, and not subject to any legislation at all. I am not always happy about the conditions in which these animals are kept. A horse requires reasonable pasture—not just any piece of waste land growing coarse grass. He requires visiting at least once every day—not just at week-ends in the winter. Some stabling should be available in the case of very inclement weather or illness or lameness of the horse.

These requirements are not fulfilled in many, maybe a majority, of the cases of horses and ponies kept.

I do not pretend to know a solution to this problem but I would appeal to all parents (as children are often the owners of these ponies) to make sure that minimum requirements will be found for the horse, and to realise that apart from the purchase price, regular expenses are involved in properly providing for the pony.

Control of Dogs on Roads 1970 Order

Came into force in April. In the months immediately after this Order appeared, it was noticeable that the number of road accident cases involving injury to dogs decreased considerably but this improvement was short lived. We now appear to be back to the position as it was before the Order.

Again my thanks to all who help me, Public Health Inspectors, the Police, Ministry of Agriculture, and many others.

J. ALLCOCK, B.V.Sc., M.R.C.V.S.

STAFF PUBLICATIONS 1960-1970

1960-61

R. C. Wofinden :

"Co-ordination and co-operation in the Social Services": *Social Service Bulletin*, March 1961, 4-7.

"Mental health and the family—a challenge to the Public Health Service": *Journal of the Congress of the Royal Society of Health*, April, 1961.

"The changing pattern of medico-social service in the home in Bristol": *Public Health*, 1961, 5, 304-310.

Articles on Public Health, and kindred subjects, in *Oxford Junior Encyclopaedia*, rev. ed. Volume 10.

Review of *Mental Health and Social Policy 1845-1959*, by Kathleen Jones, in *Journal of the Royal Society of Health*, 1961, 81, 28.

P. W. Bothwell :

"An ambulance designed for the patient and crew": *Public Health*, 1960, 459-464.

"Endemiology of Brucellosis in rural areas": *ibid.*, 1961, 57, 274-285.

"Motor-cycle accidents: protection from crash injuries": *Lancet*, 1960, 807-810.

"Epidemiology and prevention of human brucellosis": *Veterinary Record*, 1960, 72, 933-948.

"Routine, records and research": *Medical Record*, Parts 1, 2, 1960, August, November, Part 3 February, 1961.

"National epidemiology": *British Medical Journal* 1961, i, 1461.

Mary P. English, Mary D. Gibson and Ethel H. L. Duncan :

"Studies in the epidemiology of Tinea Pedis. IV Seed and soil": *British Medical Journal*, 1960, ii, 573-576.

1961-62

R. C. Wofinden :

"Housing the Aged and Infirm": *Journal of the Institute of Housing (Inc.)*, December 1961, 23, 122-127.

"The Changing Aspects of Public Health": *Midwives Chronicle and Nursing Notes*, December 1961, 466-468.

P. W. Bothwell :

"Basic Purposes in Health Service Organisation": *The Medical Officer*, 1961, 106, 125-126.

G. Herdan :

"A Critical Examination of Simon's Model of Certain Distribution Functions": *Applied Statistics*, 1961, 10, 65-76.

"Vocabulary Statistics and Phonology: a Parallel": *Language*, (Journal of the Linguistic Society of America), 1961, 38, 247-255.

Review of *Problèmes et méthodes de la statistique linguistique*, by P. Guiraud, Paris 1960, *ibid.*, 120-125.

J. F. Skone (with M. Brodigan, A. McDiarmid and P. G. Mann) :

"Brucellosis—an Island Epidemiological Study": *British Medical Journal*, 1961, ii, 1393-1396.

Review of *Aspects of Public Health Nursing*, by Glete de Alcantara et al., Geneva, World Health Organisation, 1961, *Lancet*, 1961, ii, 1182.

Mary P. English and Mary D. Gibson :

"Studies in the epidemiology of Tinea Pedis, V, Some Day Schools revisited" *ibid.*, 1960, ii, 577-579.

"Studies in the epidemiology of Tinea Pedis, VI, Tinea Pedis in a Boys' Secondary School". *ibid.*, 1961, i, 1083-1086.

G. Herdan :

"The frequency of cancer in diabetes mellitus": *British Journal of Cancer*, 1960, 14, 449-456.

The Statistics of Structured Meaning in *Advances in Documentation and Library Science*, 1961, 3, Part 2, Interscience Publishers, New York.

J. F. Skone :

"The epidemiology of brucellosis": *Public Health*, 1961, 75, 259-267.

"Casualty Services": *Medical Officer*, 1960, 104, 315.

"Accidents at home": *Lancet*, 1961, i, 653.

Reviews of *A Synopsis of Public Health and Social Medicine*, by Antony Essex-Cater in *Lancet*, 1960, ii, 1382, and *Coloured Immigrants in Britain, an investigation carried out by the Institute of Race Relations* in *Lancet*, 1960, ii, 583.

J. F. Skone (with John Mills) :

"The seriously ill patient and the helicopter": *Lancet*, 1960, ii, 363-364.

Sarah Walker :

"Recent trends in the maternity service": *Mother and Child*, 1961, 31, 285-287.

E. M. Sheen and E. H. L. Duncan :

"A survey of a Health Visitor's work among the chronic sick and aged in Bristol": *The Medical Officer*, 1960, 104, 175-180.

1962-63

R. C. Wofinden :

"Health Problems of Immigrants": Opening Discussion at Royal Society of Health Congress, April 1962: *Journal of the Congress of the Royal Society of Health*, 1962.

"Vital and Health Statistics: their use in Public Health Administration": WHO European Conference, June 1962: *WHO Publication* EURO-217.

Review of *Teaching and Learning in Medical School*, by George E. Miller et al, in *Medical Officer*, 1962, 108, 193.

P. W. Bothwell :

"The Problem of Motor-Cycle Accidents": *Practitioner*, 1962, 188, 474-488.

"Everyday Ergonomics": *Medical Officer*, 1962, 108, 53-56.

"Conceptual and Organizational Problems in Medical and Particularly Epidemiologic Research": *Public Health*, 1962, 76, 360-376.

"Brucellosis in Children": *Archives of Disease in Childhood*, 1962, 73, 628-639.

P. W. Bothwell (with A. McDiarmid, H. G. Bartram, H. A. Mackenzie-Wintle and A. R. H. Williamson) :

"Brucellosis Control and Eradication: Notes and Proposals of the Oxford Working Group": *Veterinary Record*, 1962, 74, 1091-1101.

H. Temple Phillips :

"Bristol's Industrial Therapy Organisation—Rehabilitation in Long-Standing Mental Illness": *Municipal Review*, 1962, 33, 20-21.

Review of *Mental Health in the United States* by Nina Ridenout in the *Royal Society of Health Journal*, 1962, 82, 205.

H. Temple Phillips (with F. Morton) :

"The Bush Training Centre—Bristol's New Provision for the Mentally Handicapped": *Hospital and Social Service Journal*, 1962, 72, 957-958.

J. F. Skone :

"The Health and Social Welfare of Immigrants in Britain": *Public Health*, 1962, 76, 132-148.

"The Health and Welfare of the Immigrant": *Proceedings of the Annual Meetings of the Association of Sea and Air Port Health Authorities of Great Britain*, Gloucester, June 14th, 1962.

"Institutional Staphylococcal Infection and the Medical Officer of Health": *Postgraduate Medical Journal*, 1962, 38, 466-467.

Review of *Research and Public Health* by Sir John Charles in *Lancet*, 1962, i, 517-518.

Review of *Smallpox* by C. W. Dixon, *ibid.*, 1005-1006.

"Health and Welfare Problems in High Flats": The Public Works and Municipal Services Congress—14th November, 1962.

1963-64

R. C. Wofinden :

"The Early Years: Support from the Community": *Royal Institute of Public Health and Hygiene Journal*, November 1963, 26, No. 11, 287-289.

"Health Aspects of Industrialization—Health and the Family": W.H.O. Inter-Regional Seminar, Dacca, East Pakistan, November 1963. *W.H.O. Publication*.

P. W. Bothwell, A. W. Macara, Dorothy Martin, J. F. Skone and R. C. Wofinden :

"Infectious Hepatitis in Bristol, 1959-1962": *British Medical Journal*, 1963, 2, 1613-1616.

P. W. Bothwell :

"Child health tests could mean so much more": *Medical News*, March 29th, 1963.

"The ups and downs of ambulance design": *ibid.*, May 31st, 1963.

"Epidemiologic factors in Bristol hepatitis outbreak": *British Medical Journal*, 1963, 2, 241.

"Deficiencies in Medical Documentation": *ibid.*, 2, 309.

Rapporteur on "Diabetes" and "Quarantine" at Annual Meeting, British Medical Association, July 1963: *ibid.*, 2, 373-374.

"Fatalities from Brucellosis": *ibid.*, 1, 1481.

"Epidemiology of Human Brucellosis in the United Kingdom": *British Journal of Preventive and Social Medicine*, 1963, 17, 90-94.

"Brucellosis": *Practitioner*, 1963, 191, 577-587.

"Review of the Progress of Dairy Science: Milk-borne Disease": *Journal of Dairy Research*, 1963, 30, 109-159.

"Ingenious Hub Steering: patent specification for motor-cycles discussed by V. Willoughby". *The Motor Cycle*, August 15th, 1963, 186-188.

"Motor Cycle Accidents": Convention on Accident Prevention and Life Saving, Royal College of Surgeons, London, May 1963.

P. W. Bothwell (with H. G. Bartram, A. McDiarmid, H. A. Mackenzie-Wintle and A. R. H. Williamson) :

"Brucellosis Control and Eradication": *Public Health*, 1963, 77, 135-144.

P. W. Bothwell (with H. G. Bartram, W. H. H. Jebb, A. McDiarmid and A. E. Preston) :

"Brucella abortus Agglutinins in the Sera of Pregnant Women and Blood Donors": *British Journal of Preventive and Social Medicine*, 1963, 17, 95-100.

J. F. Skone :

"Health in a Caravan": *The Lancet*, 1963, 1, 648.

"School and University Hygiene and Medicine": *ibid.*, 2, 88.

"The Fourth International Congress of School and University Hygiene and Medicine": *The Medical Officer*, 1963, 110, 31-33.

"Safety, Health and Welfare on Building Sites": *Transactions of the Association of Medical Officers*, 1963, 13, 83.

"Prevention of Psychiatric Disorders among Immigrant Schoolchildren in Britain": *Public Health*, 1963, 78, 47-49.

J. F. Skone (with H. W. Barrett and Margaret Brodigan) :

"School Furniture and Posture": *The Medical Officer*, 1963, 110, 209-210.

1964-65

T. G. Faulkner Hudson :

Vanadium: toxicology and biological significance, Elsevier Publishing Company, 1964.

J. F. Skone :

(Anonymous)—"Advances in Care of the Sick and Injured": *The Medical Officer*, 1964, 111, 330-332.

(Anonymous)—"The Ambulance Service": *The Lancet*, 1964, 1, 1212-1213.

R. C. Wofinden :

"A Unified Maternity Service? The Public Health Approach to the Problem": *The Royal Society of Health*, (Congress), 1965.

P. W. Bothwell :

A New Look at Preventive Medicine, Pitman Medical Publishing Co. Ltd., 1965.

"Motor-Cycle Accidents": "Accident Prevention and Life Saving": *Papers given at Convention, Royal College of Surgeons of England, 1963*: ed. J. H. Hunt, 1965, E. and S. Livingstone Ltd., 106-121.

"Ambulance Design": *Proc. 7th Stapp Car Crash Conference*, ed. D. M. Severy, 1965, Charles C. Thomas, Springfield, Illinois, 324-344.

A. W. Macara :

"A Forward Look at District Nursing": *Nursing Mirror and Midwives Journal*, 1965, 119, 535-536 and 563-564.

J. F. Skone :

"Shifting Populations": *The Lancet*, 1965, 2, 281.

"New Hospitals in Marseilles and Ajaccio": *British Hospital Journal and Social Service Review*, 1965, 75, 2426.

R. C. Wofinden :

"The Services of To-day and To-morrow": London Boroughs Training Committee Conference on *Effective Community Care: Staffing and Training*. 11-12th Feb. 1966, 18-24, 3.

"Opportunity for Health Education in Health Centres": *Journal Inst. Hlth. Educn.*, 4, No. 3, 23-25.

"Problem Families—A United Kingdom Conception": *Duodecim* Autumn, 1966 (journal of the Finnish Med. Soc.) Helsinki, Finland.

"St. George Health Centre, Bristol": *Nursing Times*, 29.7.1966, 62, No. 30, 1003-1006.

T. G. Faulkner Hudson :

"Plant hygiene in the manufacture of Beryllium-Copper Alloys": *Hygiene, Toxicology, occupational diseases*: Paper read at 15th *International Congress of Industrial Medicine*. Vienna, 1966, 3, 45-48.

A. W. Macara :

"Man and his Environment": *Black Bag*, 1966, 22, 2.

"Community Care Today and Tomorrow": *District Nurse*, 1966, 9, 9, 210-212.

"The Rôle of Epidemiology in a Public Health Department": *International Epidemiological Association Bulletin*.

Review of *Public Health and Preventive Medicine* by J. B. Meredith Davies, 1966, published Baillière, in *British Hospital Journal and Social Service Review*.

H. Temple Phillips :

"Hostels for the Mentally Disordered": *The Medical Officer*, 1966, No. 3004, 115, No. 7, 85-92.

J. F. Skone :

"Health and Welfare problems of shifting populations" *Nursing Mirror*, 1966, Part 1, 122, 13 and 16; Part 2, 123, 13-16.

"Good Health in Holland": *The Municipal and Public Services Journal*, 1966, 74, 2882-2883.

Jean O. Sangster :

"Survey of Employment of Recently Qualified Health Visitors": *The Medical Officer*, 1966, 3019, 294-296. (Reprinted in *The Nursing Times*.)

"Recently Qualified Health Visitors": *Nursing Times*, 1966, 62, No. 51, 1691-1693, and No. 52, 1726-1727.

R. C. Wofinden :

Education and Medicine: A Partnership in Health Education?: Inaugural address of Combined Conference on this subject by Soc.M.O's.H., Assoc. of Teachers in Colleges and Departments of Educn. and the Central Council for Health Education, Loughborough, April, 1967, pp. 5-13. *Report of Procs. pub. by Central Council for Health Education, London.*

"Health Centres in Practice": (Summary) *Health Centres Conference* at the Hospital Centre, London, Nov. 1966, 16-18.

"Health Centres and the General Medical Practitioner": *Brit. med. J.*, 1967, 1, 565-567. (Shortened version Malcolm Morris Memorial Lecture, London, Dec. 1966.)

"Health Centres—How to go about it": *Medical World*, 1967, 105, No. 6, 27-32.

"William Budd": *Bristol Medico-Chirurgical Journal*, 1967, 82 (iii), No. 305, 63-70.

"Report on the Inter-Regional Seminar on Occupational Health emphasizing especially Health in Agriculture": Moscow and Kiev, U.S.S.R., Aug. 1965, Pub. W.H.O. Geneva, 1966, PA/66. 102.

R. C. Wofinden (with A. J. Rowland, J. F. Skone and A. J. Wood) :

"Infectious Hepatitis in Bristol, 1960-6": *Brit. Med. J.*, 1967, 1, 309.

R. C. Wofinden (with Kathleen E. Faulkner and L. Leyland) :

"Cancer Registration": *The Med. Offr.*, 1967, No. 3087, 118, No. 12, 147-148.

R. C. Wofinden (with P. N. Dixon) :

"The Inter-American Investigation of Mortality—Comparable Mortality Statistics for Twelve Cities": *Brit. J. Prev. Soc. Med.*, 1967, 21, 150-158.

Ethel H. L. Duncan, Mary P. English, R. R. Wethered :

"Studies in the Epidemiology of Tinea Pedis, VIII: Fungal Infection in a Long-stay Hospital": *Brit. Med. J.*, 1967, 3, 136-139.

Ethel H. L. Duncan, K. G. Baber, Beryl Corner, Sheila M. Eades, W. A. Gillespie and Sarah C. B. Walker :

"A Prospective Study of Staphylococcal Infection and its Prevention among Infants and Mothers after Childbirth in Hospital and at Home": *J. Hyg.*, 1967, 65, 381-393.

T. G. Faulkner Hudson :

"Plant Hygiene in the Manufacture of Beryllium-Copper Alloys, Hygiene, toxicology and occupational diseases": *15th International Congress of Occupational Medicine, Vienna, 1966.*

A. W. Macara :

"The Teaching of Social Medicine in the Netherlands, Sweden and Denmark": *London School of Hygiene and Tropical Medicine, Report on travels as Sir Wilson Jameson Fellow*, 1967.

"The Special Needs of Public Health Administration": (Summary) *Teaching Group of the Society of Medical Officers of Health*, CIBA Foundation, March, 1967, London, 3-5.

"As Others See the Samaritans": *7th National Conference of the Samaritans*, Glasgow, Sept. 1967, *Report of Procs.*

A. J. Rowland (with J. F. Skone, R. C. Wofinden and A. J. Wood) :

"Infectious Hepatitis in Bristol, 1960-6": *Brit. Med. J.*, 1967, 1, 309.

J. F. Skone :

"The Use of Audio-Tape in Medical Teaching": *Report of 2nd Conference at the Academic Unit, Chelmsford and Essex Hospital*, June, 1967, 86-87.

"Brucellosis Eradication": *The Medical Officer*, 1967, 117, 223-224.

B.M.A. Clinical Meeting, Londonderry: *ibid.*, 117, 260-261.

"Early Detection of Diseases": *ibid.*, 117, 303-304.

"Immigrant Mothers and Children": *ibid.*, 117, 358-359.

"Health and Family Poverty": *ibid.*, 118, 113.

"Integrating Child Health Services": *The Municipal and Public Services Journal*, 1967, 75, 1197-1199.

"Health Centres and Group Practice": *ibid.*, 75, 1917.

J. F. Skone (with A. J. Rowland, R. C. Wofinden and A. J. Wood) :

"Infectious Hepatitis in Bristol, 1960-6", *Brit. Med. J.*, 1967, 1, 309.

S. C. B. Walker (with K. G. Baber, B. Corner, E. H. L. Duncan, S. M. Eades and W. A. Gillespie) :

"A Prospective Study of Staphylococcal Infection and its prevention among infants and mothers after childbirth in hospital and at home", *The Journal of Hygiene (London)* 1967, 65, 381.

E. G. Whittle :

Note on the metallic contamination of some 43 foodstuffs: Results given for mercury, lead, copper and arsenic: *Monthly Bull., Assn. of Public Analysts*, 1967, 14, No. 9, 126-128.

Note on Cobalt in Beer: *ibid.*, 14, No. 10, 141-143.

Jean O. Sangster :

"Employment of recently qualified Health Visitors. A Survey carried out through Standing Conference of Representatives of Health Visitor Training Centres": *The International Journal of Nursing Studies*, 1967, 4, 47-56.

1968-69

R. C. Wofinden :

"Education and Training of Health Education Officers": *Public Health*, 1968, 82, No. 3, 138-142.

"Stockwood Health Centre, Bristol." *The Medical Officer*, 1968, 119, No. 9 (1.3.1968, No. 3110), 119-120.

"A Comparative Mortality Study with Special Reference to Bristol": *The Bristol Medico-Chirurgical Journal*, April, 1968. (Edited version of 56th Long Fox Memorial Lecture. University of Bristol, Nov., 1967).

"The Public Health Service as a Career": *The Medical Officer*, 1968, 120, No. 1 (5.7.1968, 120, No. 1 (5.7.1968, No. 3128), 3-4.

"Strategy and Tactics for the Public Health Service": (Presidential Address to Society of M.O.H.'s) *Publ. Hlth.*, Lond., 83, 89-96.

R. C. Wofinden (with Margaret Chapman) :

"The Case for, and the Work of, a Community Dietitian": *Procs. of The Nutrition Society*, 1968, 27, No. 1, 24-29.

R. C. Wofinden (with A. W. Macara) :

"The Evaluation of Teaching Methods": First Gen. Assembly of Institutions for Advanced Teaching in Public Health and of Schools of Public Health in Europe, Zagreb, Oct. 1968.

J. F. Skone :

Public Health Aspects of Immigration: N.C.C.I. 1968 (booklet).

"Current Trends in Ambulance Work": *The Municipal and Public Services Journal*, 1968, 76, 258-259.

"The early Detection of Imported and Endemic Disease": *Journal of the Royal College of G.P's.*, 1968, 76, Suppl. 2, 35.

1969-70

R. C. Wofinden :

"Measuring the Utilization and Effectiveness of Local Health Services": to W.H.O. Expert Committee on Statistics of Health Services and their Activities, November 1968, published internally by W.H.O.

"Should we spend more on trying to prevent Malignancy?": *Bulletin of the Medical Officer of Health and Social Services*, January 1969.

"Strategy and Tactics for the Public Health Service" (Presidential Address to Society of Medical Officers of Health): *Public Health*, 1969, 83, 2, 89-96.

"Towards an Occupational Health Service": *Trans. Soc. Occup. Med.*, 1969, 19, 3, 76-83. (The Apothecaries' Lecture.)

"Canyng Hall, 1933-1969 (A Short History of the University of Bristol Public Health Department)": *Bristol medico-chirurgical J.*, Jan. 1970, 85(i), 313, 11-15.

- P. N. Dixon :
 "Work of a Nurse in a Health Centre Treatment Room": *Br. Med. J.*, 1969, 4, 292-294.
- P. N. Dixon (with E. Trounson) :
 "Evaluation of Health Centre Community Nurse Team": *Br. Med. J.*, 1969, 1, 306-309.
- P. N. Dixon (with M. P. English and R. P. Warin) :
 "Role of *Candida albicans* Infection in Napkin Rashes": *Br. Med. J.*, 1969, 2, 23-27.
- A. W. Macara :
 "The Care of the Elderly—Epidemiological Aspects of Geriatrics": *Bristol medico-Chirurgical J.*, 1969, 84, (2), 37-43.
 "Patronage or Partnership": *Black Bag*, 1969, 25, 1, 16-18.
 Review of: *A Synopsis of Public Health and Social Medicine*, 2nd edition, by A. J. Essex-Cater in *Public Health*. 1969, 83, 3, 150.
- R. E. Midwinter :
 "Public Health, Epidemiology and Preventive Medicine": chapter in *The Medical Annual*, 1969, John Wright, Bristol.
- R. E. Midwinter (with N. M. Bassett and J. F. Skone) :
 "The Health of Immigrant Schoolchildren in Bristol": *The Medical Officer*, 1969, 122, 3197, 233.
- J. F. Skone :
 "A Joint Meeting on Infectious Diseases": *The Medical Officer*, 1969, 121, 356-357.
 "Gastro-enteritis in Manchester Region Hospitals": *ibid.*, 121, 352.
 "The Resurgence of Malaria": *ibid.*, 122, 99-100.
 "Migration from Malta to Britain": *ibid.*, 122, 160-161.
 "A West of England Event": *ibid.*, 122, 32.
 "Malaria": *W.H.O. Weekly Epidemiological Record*, 1969, 44, 577-578 (quoted).

1970-71

- R. C. Wofinden :
 "The Employment and Status of Health Educators in the Future", Paper to the Health Education Council's Residential Conference, Bangor 10-14. 8. 1970. Published 1971 in the Report of the Conference.
 "Co-ordination of Family Planning Activities between the Health Sector and Other Sectors", Paper to W.H.O. Expert Committee on Family Planning in Health Services, Geneva, 24-30. 11. 1970. (Unpublished).
- J. F. Skone :
 "Public Health Aspects of Immigration", Community Relations Commission, 1970. (Second edition).
 "Human and Animal Brucellosis in Malta and Britain", *The Medical Officer*, 1970, Vol. 123, No. 4, 41-2.
- M. A. Khan, E. R. Williams and J. F. Skone :
 "Cerebral Malaria in the Port of Bristol", *Postgraduate Medical Journal*, 1970, Vol. 46, pages 116-118.
- A. J. Rowland :
 "Present Practice in the Teaching of Tuberculosis", *Public Health* (1970), 84, 232-238.
- P. N. Dixon, A. J. Rowland and Blanch Holliger :
 "Evaluation of Home Nurse Attachment in Bristol", *British Medical Journal*, 1970, 4, 545-547.
- A. W. Macara :
 "The Purpose of Social Medicine," Working Paper E 2/80/11, World Health Organisation Seminar, Ferrara, Italy, November 1970.
 "The Objectives and Components of Undergraduate Education in Social Medicine", Working Papers Turquie/0050, World Health Organisation Seminar, Bursa, Turkey, December 1970.

